

**POLARIS<sup>®</sup>**

## **2002 YOUTH ATV MODELS**

# **Owner's Safety and Maintenance Manual**

Read this manual carefully. It contains important safety information.

Scrambler 50 - No one under the age of 6 should ride this vehicle

Sportsman 90 and Scrambler 90 - No one under the age of 12 should ride these vehicles

 **WARNING**

The engine exhaust from this product contains chemicals known to cause cancer, birth defects or other reproductive harm.



**Indicates a potential hazard which could result in severe injury or death.**

**PARENTS:** Review the information in this manual with any child who may be operating the ATV. It is up to you to teach your child the proper and safe way to ride an ATV. You must set boundaries and adhere to them, keeping your child's safety foremost in your mind. Never allow your child to operate this machine without adult supervision.

**CHILDREN:** Before you ride your new Polaris ATV, there are some important things you should know. How to keep safe is the most important thing. You must also learn some things that will keep you and those around you safe while you are riding.



# FOREWORD

Congratulations and thank you from Polaris Industries Inc. for purchasing one of our all-terrain vehicles (ATVs). It is designed to provide superior riding comfort, enjoyment, and safety.

This manual is furnished to ensure that the operator and parents are aware of safe operating procedures. It also includes information about the general care and maintenance of your ATV.

Carefully read the following pages. If you have any questions regarding this ATV contact a Polaris dealer for assistance. Remember, Polaris dealers have the knowledge and facilities to provide you with the best service possible.

## **PROTECT YOUR SPORT**

Know all local, state/province riding laws;

Respect your vehicle;

Respect the environment; and

You will gain the respect of others.

We also advise you to strictly follow the recommended maintenance program as outlined. This preventive maintenance program is designed to ensure that all critical components on this ATV are thoroughly inspected at various intervals.

All information in this manual is based upon the latest product data and specifications available at the time of printing. Polaris Industries Inc. reserves the right to make product changes and improvements which may affect illustrations or explanations.

No part of this manual shall be reproduced or used without the written permission of Polaris Industries Inc.

**Illustrations included in this manual are general representations of parts having a similar function. Your model may differ.**

## INTRODUCTORY SAFETY MESSAGE TO PARENTS

**AN ATV IS NOT A TOY AND CAN BE HAZARDOUS TO OPERATE.** An ATV handles differently from other vehicles including motorcycles and cars. A collision or rollover can occur quickly, even during routine maneuvers such as turning and driving on hills or over obstacles, if you fail to take proper precautions.

Children differ in skills, physical abilities, and judgement. Some children may not be able to operate an ATV safely. Parents should supervise their child's use of the ATV at all times. Parents should permit continued use only if they determine that the child has the ability and maturity to operate the ATV safely.



**Failure to follow the warnings contained in this manual can result in SERIOUS INJURY or DEATH.**

- Read this manual and all labels carefully and follow the operating procedures described.
- Never operate an ATV without proper instruction. **Take a training course.** Riders should receive training from a certified instructor. Contact an authorized Polaris ATV dealer or call Polaris at 1-800-342-3764 to find out about the training courses nearest you.



- Always follow the age guidelines for your machine. Youth ATVs are designed and intended for use by children in two age groups. The Scrambler 50 is for children not less than 6 years of age. The Scrambler 90 and the Sportsman 90 are for children not less than 12 years of age. No children under the age of 16 should ride an ATV designed and sold for an adult.
- Do not allow other children to ride this ATV unless they have read the manual, seen the instructional video and taken and passed a Polaris approved riding skill test.
- Always avoid operating an ATV on any paved surfaces, including sidewalks, driveways, parking lots and streets.
- Never operate an ATV on any public street, road or highway, even a dirt or gravel one.
- Never operate an ATV without wearing an approved helmet that fits properly. You should also wear eye protection (goggles or face shield), gloves, boots, long-sleeved shirt or jacket, and long pants.
- Never consume alcohol or drugs before or while operating this ATV.
- Never operate at excessive speeds. Always travel at a speed which is proper for the terrain, visibility and operating conditions, and your experience.

- Never attempt wheelies, jumps or other stunts.
- Always inspect your ATV each time you use it to make sure it is in safe operating condition. Always follow the inspection and maintenance procedures and schedules described in this manual.
- Always keep both hands on the handlebars and both feet on the footrests of the ATV during operation.
- Always go slowly and be extra careful when operating on unfamiliar terrain. Always be alert to changing terrain conditions when operating the ATV.
- Never operate on excessively rough, slippery or loose terrain.
- Always follow proper procedures for turning as described in this manual. Practice turning at low speeds before attempting to turn at faster speeds. Do not turn at excessive speed.
- Always have the ATV checked by an authorized Polaris dealer if it has been involved in an accident.
- Never operate the ATV on hills too steep for the ATV or for your abilities. Practice on smaller hills before attempting larger hills.

- Always follow proper procedures for climbing hills as described in this manual. Check the terrain carefully before you start up any hill. Never climb hills with excessively slippery or loose surfaces. Shift your weight forward. Never open the throttle suddenly or make sudden gear changes. Never go over the top of any hill at high speed.
- Always follow proper procedures for going down hills and for braking on hills as described in this manual. Check the terrain carefully before you start down any hill. Shift your weight backward. Never go down a hill at high speed. Avoid going down a hill at an angle which would cause the vehicle to lean sharply to one side. Go straight down the hill where possible.
- Always follow proper procedures for crossing the side of a hill as described in this manual. Avoid hills with excessively slippery or loose surfaces. Shift your weight to the uphill side of the ATV. Never attempt to turn the ATV around on any hill until you have mastered the turning technique described in this manual on level ground. Avoid crossing the side of a steep hill if possible.

- Always use proper procedures if you stall or roll backwards when climbing a hill. To avoid stalling, maintain a steady speed when climbing a hill. If you stall or roll backwards, follow the special procedure for braking described in this manual. Dismount on the uphill side or to either side if pointed straight uphill. Turn the ATV around and remount, following the procedure described in this manual.
- Always check for obstacles before operating in a new area. Never attempt to operate over large obstacles, such as large rocks or fallen trees. Always follow proper procedures when operating over obstacles as described in this manual.
- Always be careful of skidding or sliding. On slippery surfaces, such as ice, go slowly and be very cautious in order to reduce the chance of skidding or sliding out of control.
- Avoid operating the ATV through deep or fast flowing water. If you cannot avoid water which exceeds the recommended maximum depth (pg. 98), go slowly, balance your weight carefully avoiding sudden movements, maintain a slow and steady forward motion, do not make sudden turns or stops, and do not make sudden throttle changes.
- Wet brakes may have reduced stopping ability. Test your brakes after leaving water. If necessary apply them lightly several times to let friction dry out the pads.

- Always use the size and type tires specified in this manual. Always maintain proper tire pressure as described in this manual.
- Never modify an ATV through improper installation or use of accessories.
- Never exceed the stated load capacity for an ATV. Cargo should be properly distributed and securely attached. Reduce speed and follow instructions in this manual for carrying cargo. Allow greater distance for braking.

FOR MORE INFORMATION ABOUT ATV SAFETY, call the Consumer Product Safety Commission at 1-800-638-2772, or Polaris at 1-800-342-3764.

### **Additional Important Information...**

Due to our concern for the safety of our customers and the general public, Polaris hereby strongly recommends and requests that consumers not have installed on a Polaris ATV any equipment which is intended to increase the speed or power of the vehicle; or make any other modifications to the vehicle for these purposes. Any modifications to the original equipment of the ATV substantially increase the risk of bodily injury. Please be aware that these modifications may create a substantial safety hazard.

Polaris hereby informs you that the warranty on your ATV is terminated if any such equipment has been added to the ATV or any modifications have been made to the ATV which increase its speed or power.

We also advise you to strictly follow the recommended maintenance program outlined in this manual. This preventive maintenance program is designed to ensure that all critical components on the ATV are thoroughly inspected by your dealer at various mileage intervals.

**NOTE:**

The addition of certain accessories may change the handling characteristics of the ATV.

Be certain any accessories added to this ATV have been approved by Polaris. Familiarize yourself with their function and affect on the ATV.



**WARNING**

**Indicates a potential hazard which could result in severe injury or death.**

# TABLE OF CONTENTS

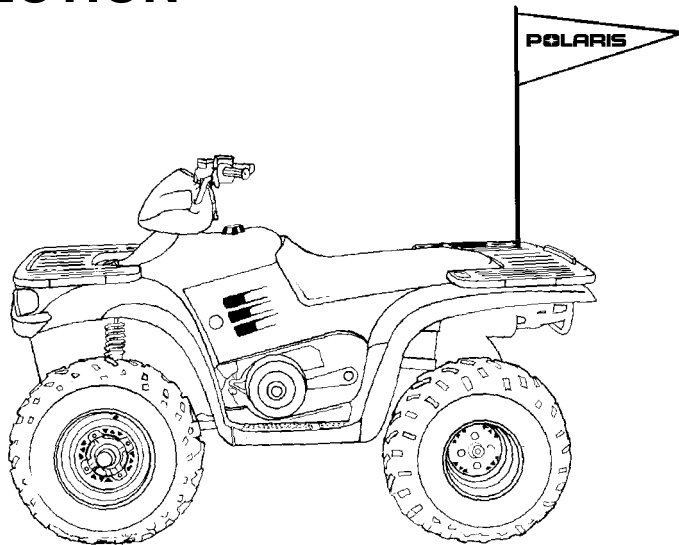
RIDER'S SECTION .....	R-1 - R-20
UNDERSTANDING WARNINGS .....	1 - 4
GENERAL SAFETY AND DESCRIPTION OF LABELS .....	5-19
DAILY PRE-RIDE CHECK .....	20-21
OPERATION WARNINGS .....	22-46
VEHICLE IDENTIFICATION NUMBERS .....	47-48
CONTROL AND PARTS FUNCTIONS .....	49-69
STARTING THE ENGINE .....	70-71
RIDING GEAR .....	72-73
VEHICLE BREAK IN PERIOD .....	74-76
CARRYING LOADS .....	77-80
DAILY PRE-RIDE CHECK .....	81-83
RIDING .....	84-103

# TABLE OF CONTENTS

PVT SYSTEM OPERATION .....	104-105
BATTERY .....	106-111
NOISE EMISSION CONTROL SYSTEM REGULATION .....	112-114
MAINTENANCE .....	115-163
SPECIFICATIONS .....	164-170
WIRING DIAGRAMS .....	171-172
TROUBLE SHOOTING .....	173-174
WARRANTY .....	175-180
INDEX .....	-



# RIDER'S SECTION



## **KNOW YOUR MACHINE**

**PARENTS:** Review the information in this manual with any child who may be operating the ATV. It is up to you to teach your child the proper and safe way to ride an ATV. You must set boundaries and adhere to them, keeping your child's safety foremost in your mind. Never allow your child to operate this machine without adult supervision.

Polaris Youth ATVs are equipped with an Adjustable Throttle Stop System and Exhaust System Restrictor(s) to allow adults to limit the speed of the vehicle according to the rider's skill and experience. More information on speed limiting functions can be found on pages 134-136 in the maintenance section of this manual.

**CHILDREN:** Before you ride your new Polaris ATV, there are some important things you should know. How to keep safe is the most important thing. You must also learn some things that will keep you and those around you safe while you are riding.

## KNOW YOUR MACHINE

Pay attention when you see this symbol.:

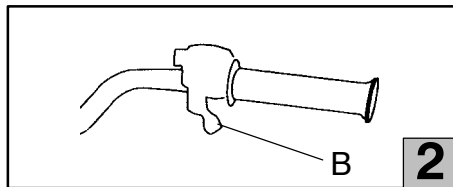
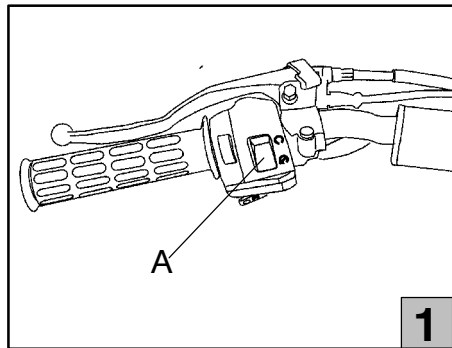


**This is the safety alert symbol. When you see this symbol on your machine or in this manual it means PAY ATTENTION. If you don't, you could get hurt very badly or even killed. Your safety is involved!**

## KNOW YOUR MACHINE

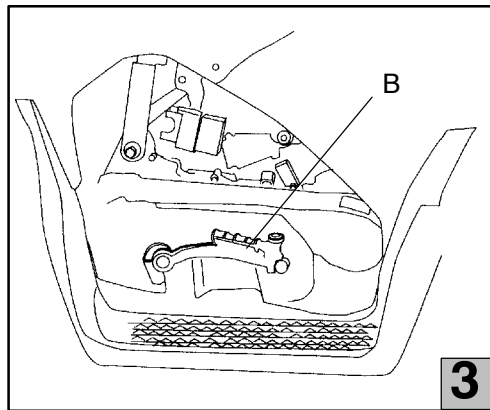
Before you have an adult start the engine for you for the first time, let's learn about the controls on your new machine.

1. **Engine Stop Switch (A)** - When the engine is running, you can push this button down to shut the engine off. The button should be up "on" before starting the engine.
2. **Throttle Control (B)** - This makes your ATV go forward when you press it with your thumb. You must always make sure the throttle control does not stick before you operate your ATV. Read more about it on page R-12.



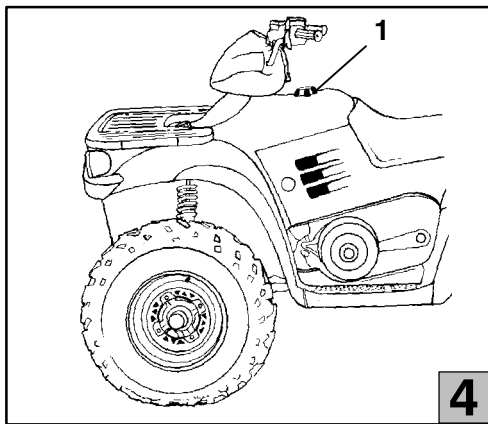
## KNOW YOUR MACHINE

3. **Kick Starter (B)** - If your battery is too weak to start your machine, you can push on this with your foot to start the engine. Have an adult show you how this works. There is more information on how to use the kickstart on page 69.



## KNOW YOUR MACHINE

4. **Gas Cap** - This is where the gas goes that will run your ATV. Your ATV will not run without gas. Only adults should fill the gas tank.



Always have an adult put gas in your machine.

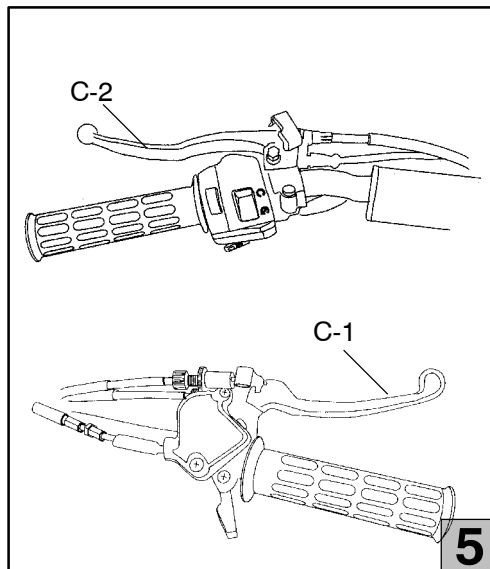
## KNOW YOUR MACHINE

5. **Brake Lever (C)** - Squeeze this towards the handle bar to make your ATV slow down or stop. The right hand lever (C-1) controls the front brake. The left hand lever (C-2) controls the rear brake. To slow down or stop, squeeze both brake handles at the same time.



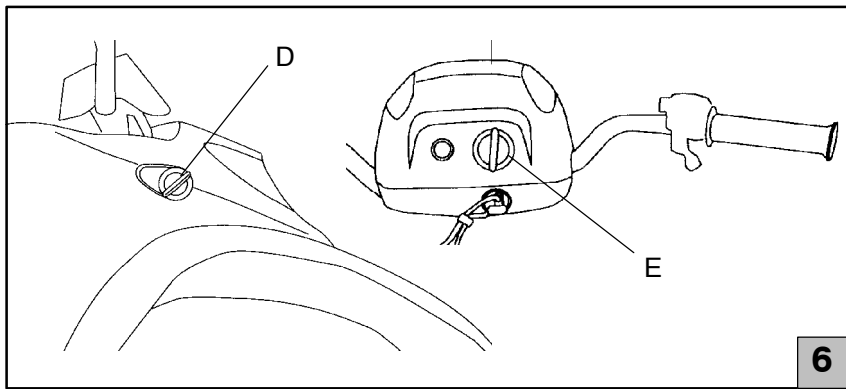
Always apply both brakes at the same time or loss of vehicle control can occur resulting in serious injury or death.

Always take your thumb off the throttle control when you pull the brake lever.



## KNOW YOUR MACHINE

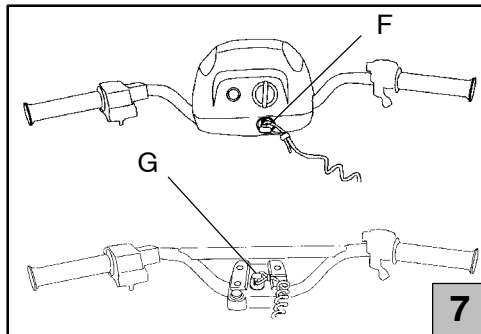
6. **Ignition Switch** - This key must be turned “on” before pushing the starter button. You can also use this key to turn off the engine. You can find it on the Right-hand side of the Scramblers (D) and on the pod of the Sportsman (E).





## KNOW YOUR MACHINE

7. **Tether Strap/ Switch** - This must **always** be attached snugly to your right wrist and your machine when you are riding. If you fall off your ATV, the tether will pull off the switch and the engine will stop. Put one end of the tether strap around your right wrist. The other end must be attached to the ATV. Always attach the tether strap before you ride. (Sportsman - F and Scramblers - G)



Never ride without the tether strap attached to your right wrist and machine. Be careful not to get the cord tangled around the handlebars or any part of your body.

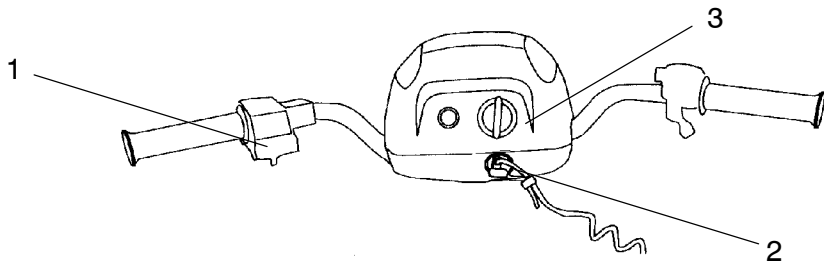
## KNOW YOUR MACHINE



**Let's review the three ways to stop your ATV.**

- 1. Sliding the shut off switch to the left or right.**
- 2. Disconnecting the tether strap will shut off the engine.**
- 3. Turning the key to off will shut off the engine.**

# KNOW YOUR MACHINE



## PRE RIDE CHECK

You are almost ready to have an adult start your ATV. Before the ATV is started for the first time, you must do a **PRE-RIDE CHECK**. In fact, every time you ride your ATV you must have an adult help you check these things before starting it. Let's learn about these things now.

✓ Make sure the throttle doesn't stick. Check this by pushing the lever toward the handlebar and then letting go. The lever should come right back to where it was before you pushed it. If it comes back slowly or stays open, you have a sticky throttle. This means that something is wrong or broken.



If you have a sticky throttle, do not start the engine. You could get hurt if you ride when you have a sticky throttle. Have an adult or your Polaris Dealer fix the throttle.

## PRE RIDE CHECK

✓ Make sure the brakes don't stick. Check the brake levers by squeezing them toward the handlebar and then letting it go. They should come right back to where they were before you squeezed. If they go back slowly or stay on, your brakes are sticking.



If you have sticky brakes, do not start the engine. You could get hurt if you ride when you have sticky brakes. Have an adult or your Polaris Dealer fix the sticky brakes.

✓ If you have used the storage area under the seat, make sure the seat is locked and in place.

## PRE RIDE CHECK

✓ Have an adult check the gas level to see if your ATV needs more. **Children should never add their own gasoline.** This should always be done by an adult. Before anyone adds gasoline to your ATV they must read the instructions and warnings on page 60 in this Owner's Manual.



Always have an adult put gas in your machine.

✓ Have an adult check the engine oil level when the engine is cold. The engine is very hot after it has been running. It could burn you. Children should never check the oil on their own. An adult should be in charge of keeping the gas and oil levels to the full marks.

## PRE RIDE CHECK

✓ This last check is done with the engine running. You must check to make certain that **ALL THREE WAYS TO STOP** your ATV are working the way they should. Do you remember what they are? If you cannot list them, go back to page R-10 and review.

## RIDING RULES

Now you are ready to learn about riding a ATV. You will learn what you can do and what you cannot do. The adult with you is your teacher. You must listen and pay attention or you won't be safe when you ride. Remember that safety while you ride is the most important thing. Let's learn how to ride!



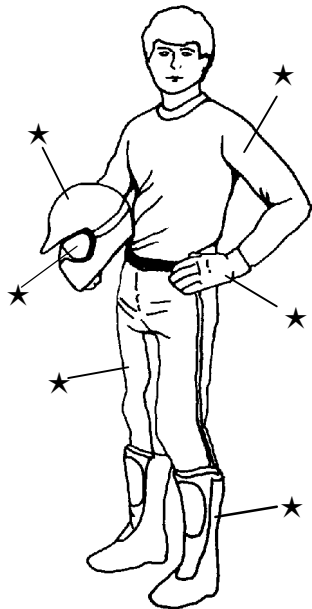
You must always follow the safe riding rules found on the next pages. If you do not, you could be hurt really bad or even killed.

- ▶ Your ATV is made for one person. Never carry a passenger. A passenger will make the ATV harder to drive. You may lose control and hurt yourself and your passenger.
- ▶ Make sure you know where you are going to drive when your ATV is started. Make sure the area is safe all around your ATV.



## RIDING RULES

- ▶ Always wear the right kind of clothing when you are riding your ATV. You will need a good helmet with a face shield or goggles. Wear a long sleeved shirt or jacket, gloves, long pants, and boots. Make sure your clothing fits properly. If it is too small, it could keep you from moving easily. If it is too big, it could hang down and get caught in a moving part.



## RIDING RULES



You must always follow the safe riding rules found on the next pages. If you do not, you could be hurt really bad or even killed.

- ▶ Never ride alone. An adult should always be watching you in case you need help. Always drive within the sight of an adult.
- ▶ Never ride on public trails.
- ▶ Always drive your ATV while sitting down. Keep both hands on the handlebars and keep both feet on the running boards.

## RIDING RULES

- ▶ Don't ride your ATV on roads or over railroad tracks. Your ATV makes noise that will keep you from hearing cars, trucks or trains that may be coming towards you.
- ▶ Don't ride at night.
- ▶ Learn where there are lakes, rivers, ponds and ditches in your driving area. Stay away from them. Never ride on frozen water. You could get hurt or you could even die. All ice can be dangerous!
- ▶ Always be alert and pay attention to where you are driving. Pay attention to other drivers and be even more careful around them because you don't know what they're going to do.

## RIDING RULES

- ▶ Never follow another ATV too closely. Always allow lots of time and space to stop your ATV.
- ▶ Only ride your ATV where you know it is safe to drive. No driving over the flower garden or on the little trees you planted. Be careful of the things around you.
- ▶ Always attach the tether strap to your right wrist and machine before riding.

*Respect your ATV;  
respect your environment;  
and you will earn  
the respect of everyone.*

# UNDERSTANDING WARNINGS

## ATTENTION:

Always follow the age guidelines on the machine. YOU MUST MAKE CERTAIN THE OPERATOR(S) UNDERSTAND ALL WARNINGS AND THE OWNER'S MANUAL BEFORE OPERATION.



### **KNOW YOUR VEHICLE BEFORE YOU BEGIN RIDING!**

It is the parent's responsibility to teach their children the proper and safe way to ride any ATV. This should be done by reading the owner's manual with your children before they first use the ATV and periodically afterwards.



### **SAFETY TRAINING**

When you purchased this vehicle your dealer offered a hands-on safety training course covering all aspects of ATV safety. In addition, you were provided with certain printed material and a video which instructs operators on safe operating procedures.

## UNDERSTANDING WARNINGS

You should review this information with your child on a regular basis. In the event you purchased a used Polaris ATV from a party other than a Polaris dealer, safety training can be obtained at no charge from any authorized Polaris dealer.

Failure to follow the warnings contained in this manual can result in **severe INJURY OR DEATH.**

NOTE: Illustrations used in this manual are for general representation only. Your model may differ.

### **SAFETY ALERT**

**WARNINGS identify special instructions or procedures which, if not correctly followed, could result in personal injury, or loss of life. Read all WARNINGS in this manual carefully. Always follow their instructions.**

## UNDERSTANDING WARNINGS

*The following precautionary signal words are used throughout this manual to convey the following messages:*



**This is the safety alert symbol. When you see this symbol on your machine or in this manual, be alert to the potential for personal injury. Your safety is involved!**



**WARNING**

**Indicates a potential hazard which could result in severe injury or death.**

## UNDERSTANDING WARNINGS

*The following precautionary signal words are used throughout this manual to convey the following messages:*



**CAUTION**

Indicates a potential hazard which may result in minor personal injury or damage to the ATV.

**CAUTION**

Indicates a situation that can result in damage to the machine.

**NOTE**

The word “NOTE:” in this manual will alert you to key information or instructions.

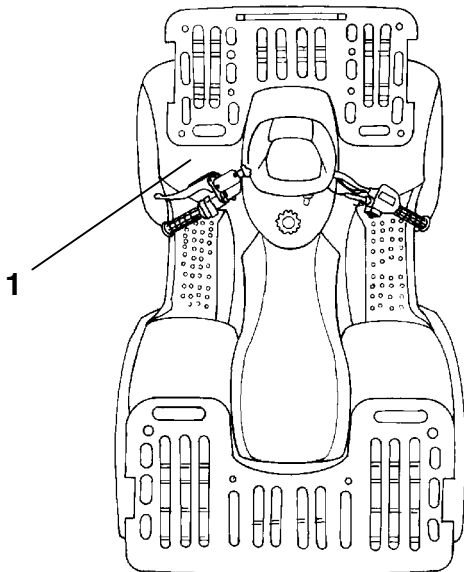


## GENERAL SAFETY AND DESCRIPTION OF LABELS

### NOTE:

Warning decals have been placed on the vehicle for the protection of the operator(s). Read and follow the instructions on each decal carefully. In the event any decal becomes illegible or comes off, contact your Polaris dealer for a replacement. Any safety decal needing replacement will be provided by Polaris at no charge. The part number is printed on the decal.

# GENERAL SAFETY AND DESCRIPTION OF LABELS



1

## **⚠ WARNING**

Improper ATV use can result in SEVERE INJURY or DEATH



**ALWAYS USE  
AN APPROVED  
HELMET AND  
PROTECTIVE  
GEAR**



**NEVER USE  
ON PUBLIC  
ROADS**



**NEVER CARRY  
PASSENGERS**



**NEVER USE  
WITH DRUGS  
OR ALCOHOL**

**NEVER operate:**

- without proper training or instruction
- at speeds too fast for your skills or the conditions
- on public roads - a collision can occur with another vehicle
- with a passenger - passengers affect balance and steering and increase risk of losing control

**ALWAYS:**

- use proper riding techniques to avoid vehicle overturns on hills and rough terrain and in turns
- avoid paved surfaces - pavement may seriously affect handling and control

**LOCATE AND READ OWNER'S MANUAL.  
FOLLOW ALL INSTRUCTIONS AND WARNINGS.**

**IF OWNER'S MANUAL IS MISSING, CONTACT  
A POLARIS DEALER FOR A REPLACEMENT.**

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## GENERAL SAFETY AND DESCRIPTION OF LABELS

**Improper ATV use can result in SEVERE INJURY OR DEATH.**

Always use an approved helmet and protective gear; Never use on public roads

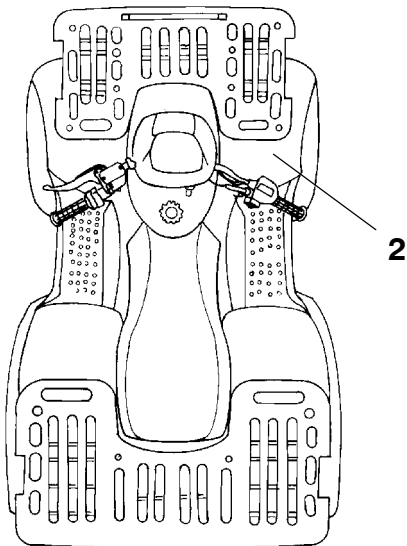
Never carry passengers; Never use with drugs or alcohol

**NEVER** operate: without proper training or instruction; at speeds too fast for your skills or the conditions; on public roads - a collision can occur with another vehicle; with a passenger - passengers affect balance and steering and increase risk of losing control.

**ALWAYS** use proper riding techniques to avoid vehicle overturns on hills and rough terrain and in turns; avoid paved surfaces - pavement may seriously affect handling and control

LOCATE AND READ OWNER'S MANUAL. FOLLOW ALL INSTRUCTIONS AND WARNINGS. IF OWNER'S MANUAL IS MISSING, CONTACT A POLARIS DEALER FOR A REPLACEMENT.

# GENERAL SAFETY AND DESCRIPTION OF LABELS



2


## ⚠ WARNING



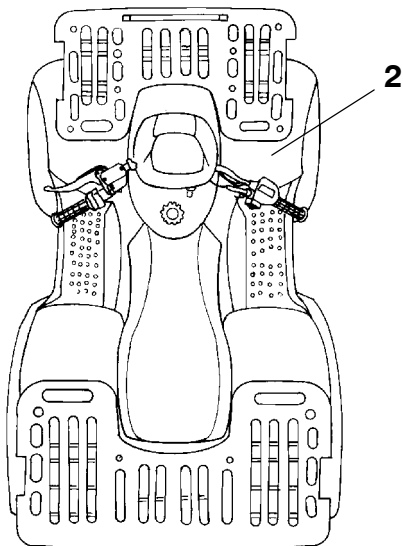
- Kids under age 6 should NEVER operate this ATV. Kids under 6 have an increased chance of losing control, which could result in severe injury or death.
- Adult supervision is required.
- Make sure operators follow Owner's Manual and labels.
- Make sure operators watch the safety video and pass the ATV Training Course.
- Never operate this ATV on HILLS steeper than 15 degrees  $\angle 15^\circ$ . To prevent flipover on hilly terrain, use throttle and brakes gradually.

(Found on Scrambler 50)

## GENERAL SAFETY AND DESCRIPTION OF LABELS

- Kids under age 6 should NEVER operate this ATV. Kids under 6 have an increased chance of losing control, which could result in severe injury or death.
- Adult supervision is required.
- Make sure operators follow Owner's Manual and labels.
- Make sure operators watch the safety video and pass the ATV Training Course.
- Never operate this ATV on HILLS steeper than 15 degrees  15°. To prevent flipover on hilly terrain, use throttle and brakes gradually.

# GENERAL SAFETY AND DESCRIPTION OF LABELS



2

## WARNING



- Kids under age 12 should NEVER operate this ATV. Kids under 12 have an increased chance of losing control, which could result in severe injury or death.
- Adult supervision is required.
- Make sure operators follow Owner's Manual and labels.
- Make sure operators watch the safety video and pass the ATV Training Course.
- Never operate this ATV on HILLS steeper than 15 degrees  $\leq 15^\circ$ . To prevent flipover on hilly terrain, use throttle and brakes gradually.

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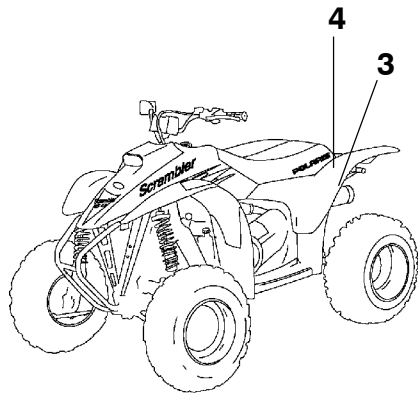
(Found on Scrambler 90 and Sportsman 90)

## GENERAL SAFETY AND DESCRIPTION OF LABELS

- Kids under age 12 should NEVER operate this ATV. Kids under 12 have an increased chance of losing control, which could result in severe injury or death.
- Adult supervision is required.
- Make sure operators follow Owner's Manual and labels.
- Make sure operators watch the safety video and pass the ATV Training Course.
- Never operate this ATV on HILLS steeper than 15 degrees  $\leq 15^\circ$ . To prevent flipover on hilly terrain, use throttle and brakes gradually.

## GENERAL SAFETY AND DESCRIPTION OF LABELS

3



### **⚠ WARNING**

IMPROPER TIRE PRESSURE OR OVERLOADING can cause loss of control, resulting in SEVERE INJURY OR DEATH.

TIRE PRESSURE (PSI): FRONT 3 REAR 3

maximum weight capacity

(Gross Vehicle Weight) INCLUDING MACHINE, DRIVER AND CARGO IS \_\_\_\_\_ LBS.



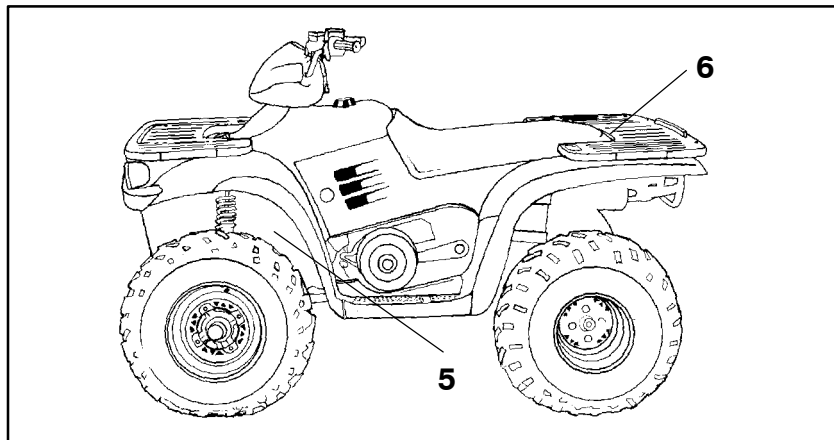
# GENERAL SAFETY AND DESCRIPTION OF LABELS

4



Indicates a potential hazard which could result in severe injury or death.

# GENERAL SAFETY AND DESCRIPTION OF LABELS



## GENERAL SAFETY AND DESCRIPTION OF LABELS

- Operation of this vehicle without the filter element will severely damage the engine.
- Clean air filter often, more frequent cleaning required in dusty conditions.

### ATTENTION

● Specific carburetor jetting and adjustments are required depending on temperature and altitude. See your Owner's Manual.

### **Factory Setting:**

- 40° to 80° F. at 0-3000 feet. (5° to 27° C. at 0-900 meters)

(On air filter box)

**5**

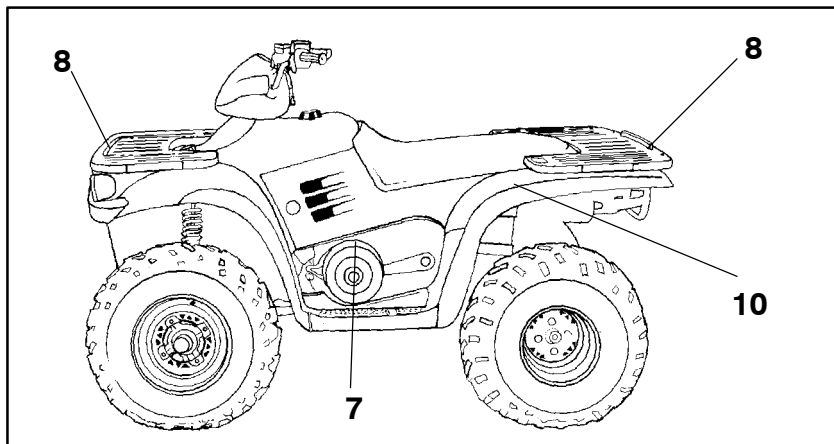
**6**

(on rear of seat)



**NO PASSENGER  
PASSAGERS INTERDITS**

# GENERAL SAFETY AND DESCRIPTION OF LABELS



## GENERAL SAFETY AND DESCRIPTION OF LABELS

7

**NO STEP**

### **WARNING**

Moving parts hazard under belt-clutch guard. To prevent serious injury, do not operate vehicle with guard removed.

Do not modify engine or clutch. Doing so can cause part failure, possible imbalance, and excessive engine RPM which can result in serious injury or death.

8


### **WARNING**

**DO NOT TOW FROM RACK OR BUMPER.**  
Vehicle damage or tipover may result causing severe injury or death.

Maximum Rack Loads: Front 10 lbs.; Rear 20 lbs.

(Found on the Sportsman 90)

# GENERAL SAFETY AND DESCRIPTION OF LABELS

	MANUFACTURED BY: POLARIS IND. INC.
	DATE:  VIN:
THIS VEHICLE IS AN ALL TERRAIN VEHICLE AND IS NOT INTENDED FOR USE ON PUBLIC ROADS.	
CE VÉHICULE EST UN VÉHICULE TOUT TERRAIN QUI N'EST PAS DESTINÉ À ÊTRE UTILISÉ SUR LES CHEMINS PUBLICS.	

10

## **WARNING**

- **IMPROPER TIRE PRESSURE OR OVERLOADING** can cause loss of control resulting in **SEVERE INJURY OR DEATH.**

**TIRE PRESSURE (PSI):** FRONT 3 REAR 3

**MAXIMUM WEIGHT CAPACITY** (Gross Vehicle Weight INCLUDING MACHINE, DRIVER AND CARGO IS 423 LBS.)

- Reduce speed and allow greater distance for braking when carrying cargo. Overloading or carrying tall, off-center, or unsecured loads will increase your risk of losing control. Loads should be centered, carried as low as possible, and firmly secured to the racks. With dual racks, load distribution 1/3 front 2/3 rear is best. For stability on rough or hilly terrain, reduce speed and cargo. Be careful if load extends over the side of the rack.

Read Owner's Manual for more detailed loading information.

(Found on Sportsman 90)

## GENERAL SAFETY AND DESCRIPTION OF LABELS

### **WARNING**

#### POTENTIAL HAZARD

Operating this ATV without proper instruction.

#### WHAT CAN HAPPEN

The risk of an accident is greatly increased if the operator does not know how to operate the ATV properly in different situations and on different types of terrain.

#### HOW TO AVOID THE HAZARD

Beginning and inexperienced operators should complete the certified training course offered by Polaris Industries Inc. They should then regularly practice the skills learned in the course and the operating techniques described in the Owner's Manual.

For more information about the training course, contact an authorized ATV dealer or call Polaris at 1-800-342-3764.

## DAILY PRE-RIDE INSPECTION

### **WARNING**

This ATV must be inspected each time before riding to ensure it is in proper working order. If proper inspection is not done, severe injury or death could result.

Use the following checklist to verify your machine is in proper working order each time you ride.

#### **Item/Inspection Procedure**

1. Tires - check condition and pressures
2. Fuel and oil tanks - fill both tanks to their proper levels
3. All brakes - check operation, adjustment.
4. Throttle - check for free operation and closing
5. Brakelight - check for proper operation.



## DAILY PRE-RIDE INSPECTION

6. Engine stop switch - check for proper function
7. Wheels - check for tightness of wheel nuts and axle nuts; check that axle nuts are secured by cotter pins
8. Drive chain - condition and slack; refer to drive chain adjustment
9. Air cleaner element - check for dirt; clean or replace
10. Steering - check for free operation noting any unusual looseness in any area
11. Loose parts - visually inspect vehicle for any damaged components or loose nuts/bolts or fasteners
12. Operators helmet, goggles and clothing



### **WARNING**

**Indicates a potential hazard which could result in severe injury or death.**

## OPERATION WARNINGS

### **WARNING**

#### POTENTIAL HAZARD

Failure to follow the age recommendations for this ATV.

#### WHAT CAN HAPPEN

Use by children of ATVs that are not recommended for their age can lead to severe injury or death of the child.

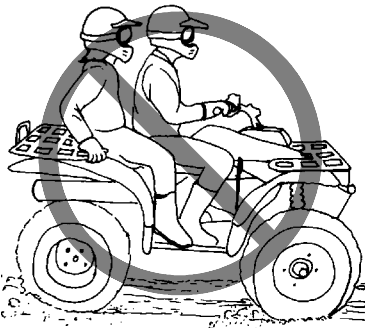
Even though a child may be within the age group for which some ATVs are recommended, he or she may not have the skills, abilities, or judgment needed to operate the ATV safely and may be involved in a serious accident.

#### HOW TO AVOID THE HAZARD

Follow the age guidelines printed on your machine.

## OPERATION WARNINGS

### **⚠ WARNING**



#### POTENTIAL HAZARD

Carrying a passenger on this ATV.

#### WHAT CAN HAPPEN

Greatly reduces your ability to balance and control this ATV.

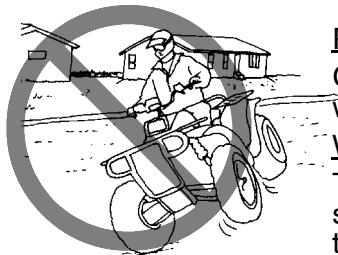
Could cause an accident, resulting in harm to you and/or your passenger.

#### HOW TO AVOID THE HAZARD

Never carry a passenger. The long seat is to allow the operator to shift position as needed during operation. It is not for carrying passengers.

## OPERATION WARNINGS

### **⚠ WARNING**



#### POTENTIAL HAZARD

Operating this ATV on paved surfaces, including sidewalks, paths, parking lots, and driveways.

#### WHAT CAN HAPPEN

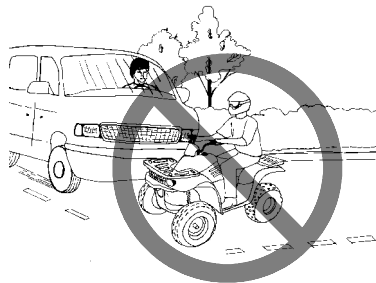
The ATV tires are designed for off-road use. Paved surfaces may seriously affect handling and control of the ATV, and may cause the vehicle to go out of control.

#### HOW TO AVOID THE HAZARD

Avoid operating the ATV on pavement whenever possible. If you must ride on a paved surface, go slowly and do not make sudden turns or stops.

## OPERATION WARNINGS

### **⚠ WARNING**



#### POTENTIAL HAZARD

Operating this ATV on public streets, roads or highways.

#### WHAT CAN HAPPEN

You can collide with another vehicle.

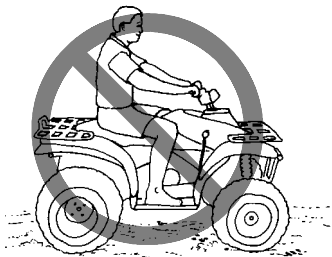
#### HOW TO AVOID THE HAZARD

Never operate this ATV on any public street, road or highway, even a dirt or gravel one.

In many states it is illegal to operate ATVs on public streets, roads and highways.

## OPERATION WARNINGS

### **⚠ WARNING**



POTENTIAL HAZARD Operating this ATV without wearing an approved helmet, eye protection and protective clothing.

WHAT CAN HAPPEN Operating without an approved helmet increases your chances of a severe head injury or death in the event of an accident.

Operating without eye protection can result in an accident and increases your chances of a severe injury in the event of an accident.

HOW TO AVOID THE HAZARD Always wear an approved helmet which fits properly.

You should also wear: eye protection (goggles or face shield); gloves; boots; long-sleeved shirt or jacket; and long pants.

### **WARNING**

#### POTENTIAL HAZARD

Operating this ATV after consuming alcohol or drugs.

#### WHAT CAN HAPPEN

Could seriously affect your judgment.

Could cause you to react more slowly.

Could affect your balance and perception.

Could result in an accident.

#### HOW TO AVOID THE HAZARD

Never consume alcohol or drugs before or while driving this ATV.

## OPERATION WARNINGS

### **WARNING**

#### POTENTIAL HAZARD

Operating this ATV at excessive speeds.

#### WHAT CAN HAPPEN

Increases your chances of losing control of the ATV, which can result in an accident.

#### HOW TO AVOID THE HAZARD

Always travel at a speed which is proper for the terrain, visibility and operating conditions; and your experience.



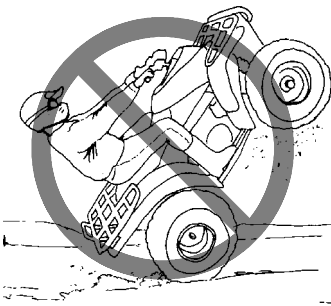
### **WARNING**

**Indicates a potential hazard which could result in severe injury or death.**



## OPERATION WARNINGS

### **⚠ WARNING**



#### POTENTIAL HAZARD

Attempting wheelies, jumps and other stunts.

#### WHAT CAN HAPPEN

Increases the chance of an accident, including an overturn.

#### HOW TO AVOID THE HAZARD

Never attempt stunts, such as wheelies or jumps.  
Don't try to show off.

## OPERATION WARNINGS

### **WARNING**

#### POTENTIAL HAZARD

Failure to inspect the ATV before operating.

Failure to properly maintain the ATV.

#### WHAT CAN HAPPEN

Increases the possibility of an accident or equipment damage.

#### HOW TO AVOID THE HAZARD

Always inspect your ATV each time you use it to make sure the ATV is in safe operating condition.

Always follow the inspection and maintenance procedures and schedules described in the Owner's Manual.

### **WARNING**

#### POTENTIAL HAZARD

Removing hands from handlebars or feet from footrests during operation.

#### WHAT CAN HAPPEN

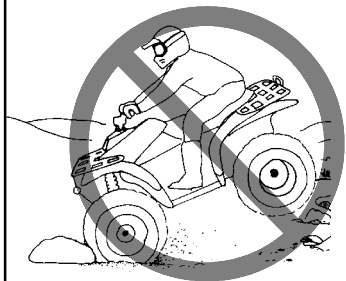
Removing even one hand or foot can reduce your ability to control the ATV or could cause you to lose your balance and fall off the ATV. If you remove a foot from the footrest, your foot or leg may come into contact with the rear wheels, which could injure you or cause an accident.

#### HOW TO AVOID THE HAZARD

Always keep both hands on the handlebars and both feet on the footrests of your ATV during operation.

## OPERATION WARNINGS

### **⚠ WARNING**



#### POTENTIAL HAZARD

Failure to use extra care when operating this ATV on unfamiliar terrain.

#### WHAT CAN HAPPEN

You can come upon hidden rocks, bumps, or holes, without enough time to react.

Could result in the ATV overturning or going out of control.

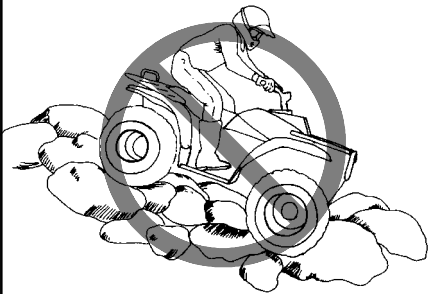
#### HOW TO AVOID THE HAZARD

Go slowly and be extra careful when operating on unfamiliar terrain.

Always be alert to changing terrain conditions when operating the ATV.

## OPERATION WARNINGS

### **⚠ WARNING**



#### POTENTIAL HAZARD

Failure to use extra care when operating on excessively rough, slippery or loose terrain.

#### WHAT CAN HAPPEN

Could cause loss of traction or vehicle control, which could result in an accident, including an overturn.

#### HOW TO AVOID THE HAZARD

Do not operate on excessively rough, slippery or loose terrain until you have learned and practiced the skills necessary to control the ATV on such terrain.

Always be especially cautious on these kinds of terrain.

## OPERATION WARNINGS

### WARNING

#### POTENTIAL HAZARD

Turning improperly.

#### WHAT CAN HAPPEN

ATV could go out of control, causing a collision or overturn.

#### HOW TO AVOID THE HAZARD

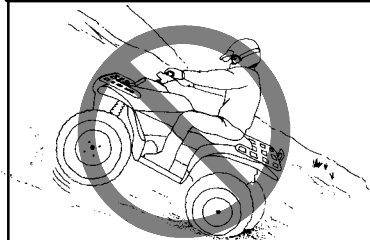
Always follow proper procedures for turning as described in the Owner's Manual. See page 86 .

Practice turning at low speeds before attempting to turn at faster speeds.

Do not turn at excessive speed.

## OPERATION WARNINGS

### **⚠ WARNING**



#### POTENTIAL HAZARD

Climbing hills improperly.

#### WHAT CAN HAPPEN

Could cause loss of control or cause ATV to overturn.

#### HOW TO AVOID THE HAZARD

Always follow proper procedures for climbing hills as described in the Owner's Manual. See pages 91 through 96.

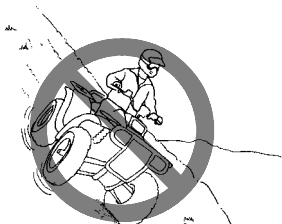
Always check the terrain carefully before you start up any hill.

Never climb hills with excessively slippery or loose surfaces. Shift your weight forward.

Never open the throttle suddenly. The ATV could flip over backwards. Never go over the top of any hill at high speed. An obstacle, a sharp drop, or another vehicle or person could be on the other side of the hill.

## OPERATION WARNINGS

### **⚠ WARNING**



#### POTENTIAL HAZARD

Going down a hill improperly.

#### WHAT CAN HAPPEN

Could cause loss of control or cause ATV to overturn.

#### HOW TO AVOID THE HAZARD

Always follow proper procedures for going down hills as described in the Owner's Manual. See page 94. **NOTE:** A special technique is required when braking as you go downhill.

Always check the terrain carefully before you start down any hill. Shift your weight backward. Never go down a hill at high speed.

Avoid going down a hill at an angle which would cause the vehicle to lean sharply to one side. Go straight down the hill where possible.



## OPERATION WARNINGS

### **⚠ WARNING**



#### POTENTIAL HAZARD

Improperly crossing hills or turning on hills.

#### WHAT CAN HAPPEN

Could cause loss of control or cause ATV to overturn.

#### HOW TO AVOID THE HAZARD

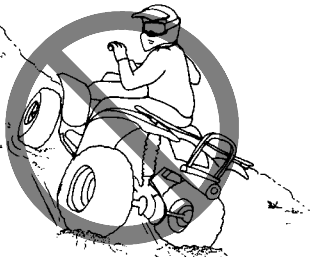
Never attempt to turn the ATV around on any hill until you have mastered the turning technique as described in the Owner's Manual on level ground. See page 96. Be very careful when turning on any hill.

Avoid crossing the side of a steep hill if possible.

When crossing the side of a hill: Always follow proper procedures as described in the Owner's Manual. Avoid hills with excessively slippery or loose surfaces. Shift your weight to the uphill side of the ATV.

## OPERATION WARNINGS

### ⚠ WARNING



#### POTENTIAL HAZARD

Stalling, rolling backwards or improperly dismounting while climbing a hill.

WHAT CAN HAPPEN Could result in ATV overturning.

#### HOW TO AVOID THE HAZARD

Maintain steady speed when climbing a hill.

If you lose all forward speed: Keep weight uphill.

Apply the brakes. Lock parking brake after you are stopped.

If you begin rolling backwards: Keep weight uphill; never apply engine power. Never apply the rear brake while rolling backwards. Apply the front brake slowly by squeezing the RH lever. When fully stopped, apply rear brake as well, and then lock parking brake. Dismount on uphill side, or to either side if pointed straight uphill. Turn the ATV around and remount, following the procedure described in the Owner's Manual. See page 96.

## OPERATION WARNINGS

### **WARNING**

#### POTENTIAL HAZARD

Skidding or sliding.

#### WHAT CAN HAPPEN

You may lose control of the ATV.

You may also regain traction unexpectedly, which may cause the ATV to overturn.

#### HOW TO AVOID THE HAZARD

On slippery surfaces, such as ice, go slowly and be very cautious in order to reduce the chance of skidding or sliding out of control.



**Indicates a potential hazard which could result in severe injury or death.**

## OPERATION WARNINGS

### WARNING

#### POTENTIAL HAZARD

Improperly operating over obstacles.

#### WHAT CAN HAPPEN

Could cause loss of control or a collision. Could cause the ATV to overturn.

#### HOW TO AVOID THE HAZARD

Before operating in a new area, check for obstacles.

Use extreme caution when riding over large obstacles, such as large rocks or fallen trees.

If you cannot avoid obstacles, always follow proper procedures as described in the Owner's Manual.

## OPERATION WARNINGS

### **WARNING**

#### POTENTIAL HAZARD

Riding on frozen lakes and rivers.

#### WHAT CAN HAPPEN

Severe injury or death can result if the ATV and/or the operator break through the ice.

#### HOW TO AVOID THE HAZARD

Never ride your ATV on a frozen body of water.

## OPERATION WARNINGS

### WARNING

POTENTIAL HAZARD Operating this ATV through deep or fast flowing water.

#### WHAT CAN HAPPEN

Tires may float, causing loss of traction and loss of control, which could lead to an accident.

#### HOW TO AVOID THE HAZARD

Avoid operating the ATV through deep or fast flowing water. If you cannot avoid water which exceeds the recommended maximum depth, go slowly, balance your weight carefully avoiding sudden movements, maintain a slow and steady forward motion, do not make sudden turns or stops, and do not make sudden throttle changes. See page 98.

Remember that wet brakes may have reduced stopping ability. Test your brakes after leaving water. If necessary, apply them several times to let friction dry out the pads.

### **WARNING**

#### POTENTIAL HAZARD

Operating this ATV with improper tires, or with improper or uneven tire pressure.

#### WHAT CAN HAPPEN

Use of improper tires on this ATV, or operation of this ATV with improper or uneven tire pressure, may cause loss of control, and increases the risk of an accident.

#### HOW TO AVOID THE HAZARD

Always use the size and type tires specified in the Owner's Manual Supplement for this vehicle.

Always maintain proper tire pressure as described in the Owner's Manual Supplement.

## OPERATION WARNINGS

### WARNING

#### POTENTIAL HAZARD

Overloading this ATV

#### WHAT CAN HAPPEN

Could cause changes in vehicle handling which could lead to an accident.

#### HOW TO AVOID THE HAZARD

Never exceed the stated load capacity for this ATV.

Cargo should be properly distributed and securely attached.



## OPERATION WARNINGS

### **WARNING**

After a rollover or an accident, have a qualified service dealer check the complete machine including, but not limited to, brakes, throttle and steering for possible damage.

### **WARNING**

Safe operation of this rider active vehicle requires good judgement and physical skills. Persons with cognitive or physical disabilities who operate this vehicle have an increased risk of overturns and loss of control which could result in severe injury or death.

 **WARNING** Indicates a potential hazard which could result in severe injury or death.

## OPERATION WARNINGS

### WARNING

#### POTENTIAL HAZARD

Operating this ATV with improper modifications.

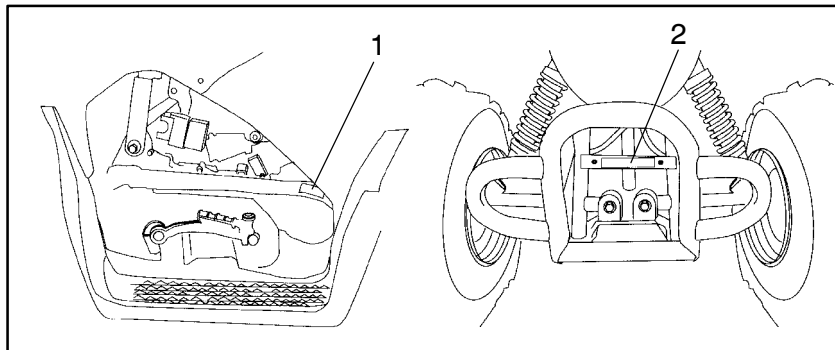
#### WHAT CAN HAPPEN

Improper installation of accessories or modification of this vehicle may cause changes in handling which in some situations could lead to an accident.

#### HOW TO AVOID THE HAZARD

Never modify this ATV through improper installation or use of accessories. All parts and accessories added to this vehicle should be genuine Polaris Industries Inc. or equivalent components designed for use on this ATV; and should be installed and used according to instructions. If you have questions, consult an authorized Polaris ATV dealer.

# VEHICLE IDENTIFICATION NUMBERS



## VEHICLE IDENTIFICATION NUMBERS

Using the illustration on page 47, record these numbers from your ATV in the spaces provided.

1. Engine Serial Number (Left side of engine crankcase)

2. Frame VIN (found on the front of frame below steering post)

Remove the spare key and store in a safe place. Your key can be duplicated only by obtaining a key blank from Polaris and having it cut by mating it with your existing key.

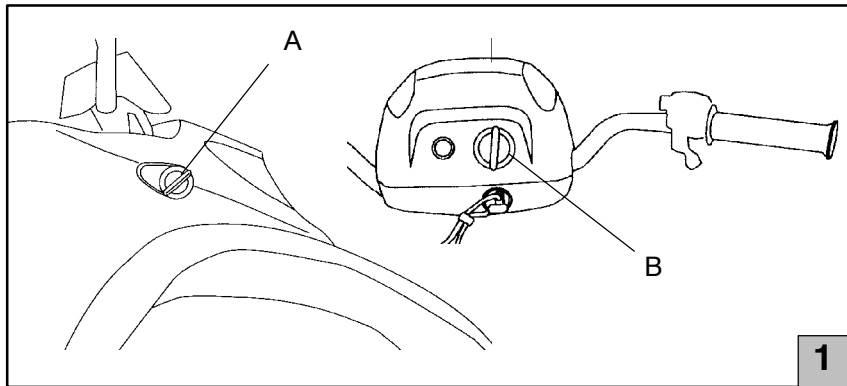
The vehicle frame and engine serial numbers are important for model identification when registering your vehicle, obtaining insurance or whenever replacement parts are required. In the event your vehicle were stolen these numbers are essential to the recovery and identification of your ATV.

# CONTROL AND PARTS FUNCTIONS

## Engine Electrical Switches

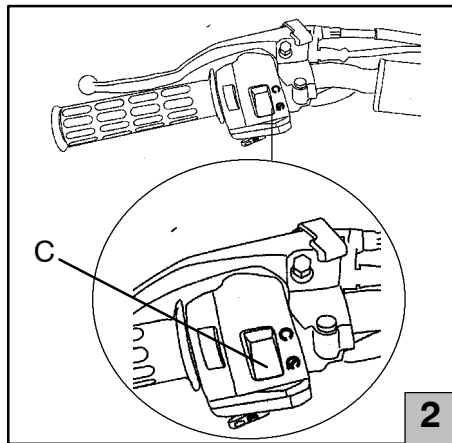
### 1 - Main Switch

- Located on the Right-hand side of the Scramblers (A) and on the pod of the Sportsman (B). This switch is operated with a key and must be turned clockwise to the "on" position to start the engine.



## CONTROL AND PARTS FUNCTIONS

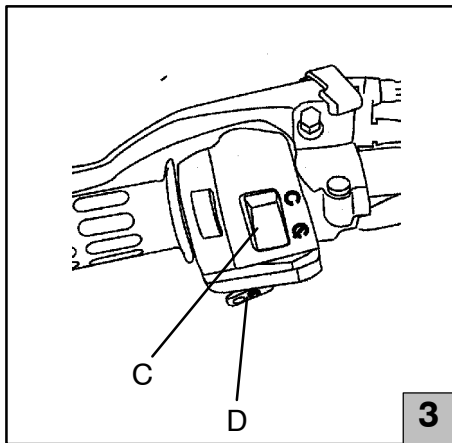
**2 - Emergency Engine Stop Switch** The engine will not start or run when the switch is in its “off” position. Its purpose is to provide the operator with a quick means of engine shut-down in case of stuck throttle or other emergency. **NOTE:** Both the main switch and the emergency engine stop switch shut off all electrical power to the entire vehicle. To stop the engine, push the on off button(C) down.



## CONTROL AND PARTS FUNCTIONS

**3 - Engine Start Button** - To start the engine, make certain the tether switch is securely plugged into the machine and attached to the rider's right wrist. Turn the key to the "on" position, set the parking brake, push the start button up to the "on" position and engage the starter (D).

**NOTE:** Remember to release the park brake before driving forward.



## CONTROL AND PARTS FUNCTIONS

### **CAUTION**

Engine or driveline damage could occur if the machine is driven without the park brake released.

### **WARNING**

This ATV is not equipped with lighting. This ATV is designed for off-road use only and must not be ridden on streets or highways. Use caution and drive at reduced speeds in conditions of reduced visibility. Do not operate this machine after dark.



# CONTROL AND PARTS FUNCTIONS

## Engine Throttle

### **WARNING**

Do not start or operate an ATV with sticking or improperly operating throttle controls. A stuck or improperly operating throttle could cause an accident resulting in severe injury or death.

Always contact your dealer for service repairs whenever throttle problems arise.

Failure to check or maintain proper operation of the throttle system can result in the throttle lever sticking during riding and cause an accident.

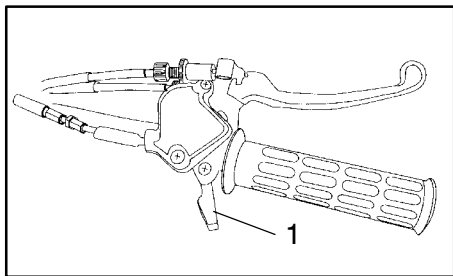
Always check the lever for free movement and return before starting the engine and occasionally during riding.

# CONTROL AND PARTS FUNCTIONS

## Throttle Lever

Engine speed and vehicle movement are controlled by pressing the throttle lever. The throttle lever (1) is spring loaded and engine speed returns to idle when the lever is released.

This vehicle is equipped with an Electronic Throttle Control (ETC) which is designed to reduce the risk of a frozen or stuck throttle. In the event the throttle cable should stick in an open position, the engine will stop and power to the rear wheels will cease when the operator releases the throttle lever.



## CONTROL AND PARTS FUNCTIONS

### **WARNING**

The Electronic Throttle Control (ETC) stops the engine in the event of a throttle system malfunction and is provided for your safety. Do not attempt to modify the ETC system or replace it with any after market throttle mechanism.

# **CONTROL AND PARTS FUNCTIONS**

## **Switches**

Each Polaris ATV has a main switch. It is located on the right hand side of the machine or headlight pod and operated with a key.

## **Indicator Lights**

Each Polaris ATV has indicator lights. This model has a low oil warning light. When this red dot is lit, it is indicating a low oil level.

# CONTROL AND PARTS FUNCTIONS

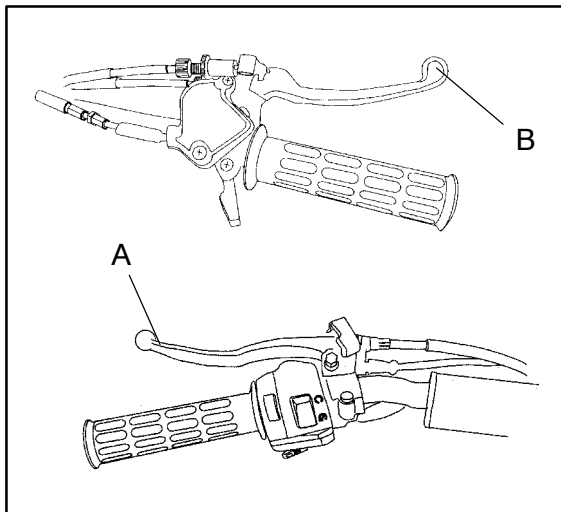
## Front and Rear Brakes

To activate the rear brake (A), squeeze the left hand lever toward the handlebar.

The front brakes (B) are activated by squeezing the lever on the RH handlebar.

### **WARNING**

Always apply both brakes at the same time or loss of vehicle control can occur resulting in serious injury or death.



# CONTROL AND PARTS FUNCTIONS

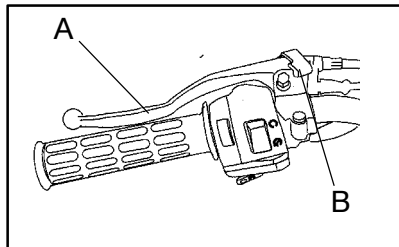
## Parking Brake

### **⚠ WARNING**

Always check to be sure that the parking brake has been disengaged before operating the ATV. An accident could result causing severe injury if the parking brake is left on while the ATV is operated.

### Setting the Parking Brake

1. Squeeze the left hand brake lever (A).
2. Push the park brake lock (B) down. This will prevent the lever from returning to the released position.



## CONTROL AND PARTS FUNCTIONS

3. To release the parking brake lock, squeeze the brake lever. The parking brake will release automatically.

### Important Safeguards

**NOTE:** This vehicle has a PVT system which is always in forward. Always lock the park brake before starting the engine.

Always lock the parking brake whenever the vehicle is left unattended.

Before starting the engine, make certain the park brake is fully locked. Since the machine has a transmission that is always in forward, throttle activation to warm the engine will make the machine go forward if the park brake is not locked.

Once the engine has warmed enough for operation, release the park brake and gently apply the throttle to go forward.

## CONTROL AND PARTS FUNCTIONS

### **WARNING**

Gasoline is highly flammable and explosive under certain conditions.

- Always exercise extreme caution whenever handling gasoline.
- Always refuel with the engine stopped and outdoors or in a well ventilated area.
- Do not smoke or allow open flames or sparks in or near the area where refueling is performed or where gasoline is stored.
- Do not over fill the tank. Do not fill the tank neck.
- If you get gasoline on your skin or clothing, immediately wash it off with soap and water and change clothing.
- Never start the engine or let it run in an enclosed area. Gasoline powered engine exhaust fumes are poisonous and can cause loss of consciousness and death in a short time.
- Shut off fuel valve whenever the ATV is stored or parked.



## CONTROL AND PARTS FUNCTIONS

### **WARNING**

Indicates a potential hazard which could result in severe injury or death.

### **WARNING**

The engine exhaust from this product contains chemicals known to cause cancer, birth defects or other reproductive harm.

# CONTROL AND PARTS FUNCTIONS

## PVT System

### **WARNING**

The PVT system rotates at high speeds, creating large amounts of force on clutch components. Extensive engineering and testing has been conducted to insure the safety of this product. However, as the owner you have the following responsibilities to make sure this system remains safe:

- Do not modify any component of the PVT system. Doing so may reduce its strength so that a failure may occur at high speeds. This system has been precision balanced. Any modification will cause the system to be out of balance, creating vibration and additional loads on components.
- Routine maintenance is the responsibility of the owner. Always follow recommended maintenance procedures. See your dealer!
- This PVT system is intended for use on Polaris products only.
- The PVT housing must be securely in place during operation.

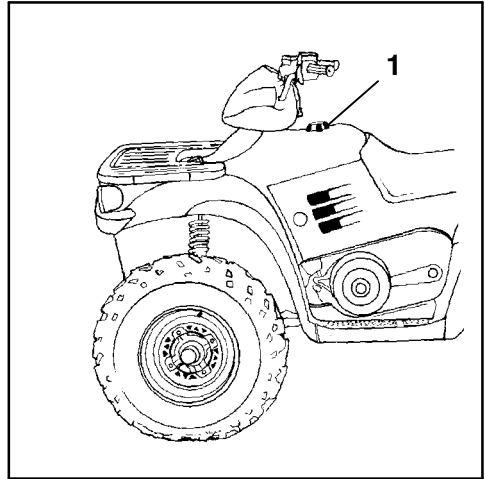
Failure to comply with this warning can result in severe injury or death.

# CONTROL AND PARTS FUNCTIONS

## Engine Fuel and Oil System

### Fuel System

The fuel tank filler cap (1) is located directly behind the handlebar. The tank has a capacity of 1.3 gallons (5 liters). Use unleaded gasoline with a minimum pump octane number of 87 octane.



## CONTROL AND PARTS FUNCTIONS

The fuel valve is located on the engine, behind the right front fender and has three positions:

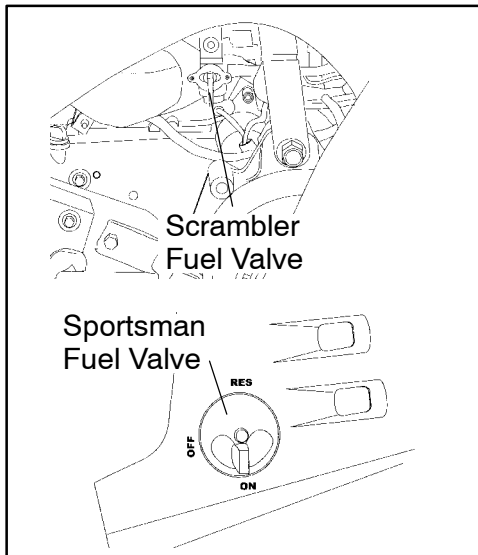
**OFF:** For vehicle storage and whenever transporting.

**ON:** For normal operation.

**RES:** For reserve supply in the event of main supply exhaustion.

**NOTE:** There is about a 7 to 10 mile (11.2 to 16 km) range on reserve gas. Always refill the gas tank as soon as possible after having used the reserve supply.

Always return valve to “on” position after refueling machine.



## CONTROL AND PARTS FUNCTIONS

### Engine Fuel Safety/Fuel/Filter

The Polaris ATV is equipped with an in-line fuel filter.

This filter should be replaced by your dealer after every 100 hours of operation or annually. Do not attempt to clean the fuel filter.

### CAUTION

Use only Polaris injection oil. Never substitute or mix oil brands. Serious engine damage and voiding of warranty can result.

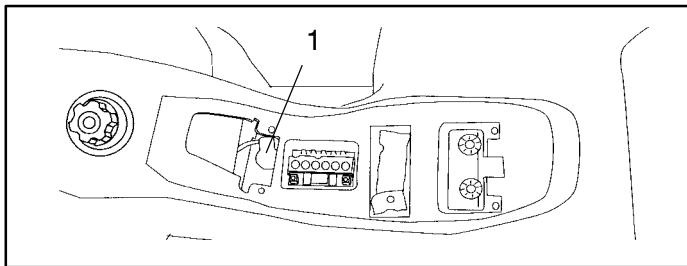
To avoid serious engine damage always top off the oil level when refueling.

# CONTROL AND PARTS FUNCTIONS

## Oil System

The oil tank (1) is located under the seat and has a capacity of 1.1 quarts (1 liter).

To remove the seat, reach under the rear of the cab and pull back on the seat latch. To replace the seat, set it in place and push down on the rear of seat. Always make sure the seat is locked in place before riding.



## **⚠ CAUTION**

Do not attempt to release the seat latch unless the machine has not been run for at least an hour. The exhaust gets very hot when the machine is run and can cause serious burns.

## CONTROL AND PARTS FUNCTIONS

### CAUTION

Engine warranty coverage may become void if you use a brand other than Polaris in your machine.

### **Polaris 2-Cycle Lubricants**

Polaris has a family of premium oils available for use in all our products and highly recommends their use. The only oils recommended for Polaris 2-cycle ATVs are Polaris Premium 2-cycle oil or Premium Gold Synthetic 2-cycle oil.

## **CONTROL AND PARTS FUNCTIONS**

Polaris Premium 2-cycle lubricants are the most advanced formulation of oils specifically designed for today's 2-cycle engines. Months of lab and field tests have resulted in a new generation of 2-cycle lubricants. Polaris Premium 2-cycle lubricants provide additives for 2-cycle engines lacking in today's fuel that keep ring grooves cleaner for less ring sticking and provide improved overall engine cleanliness. With new generation lubricity technology, they excel in meeting the lubrication demands of today's high performance 2-cycle engines. These are optimum oils recommended for liquid cooled and air cooled 2-cycle engines. We believe these oils are the best available in the market today.

### **Premium 2-Cycle Oil**

Polaris also has a TC-W3 premium oil available for use in all of our 2 cycle products. We highly recommend its use if premium gold synthetic is not used. The only oil recommended for this ATV is Polaris brand oil.

Polaris Premium 2-cycle oils will readily mix with each other, however do not mix Polaris Premium 2-cycle oils with any other oils as they may not be compatible and engine damage may occur.

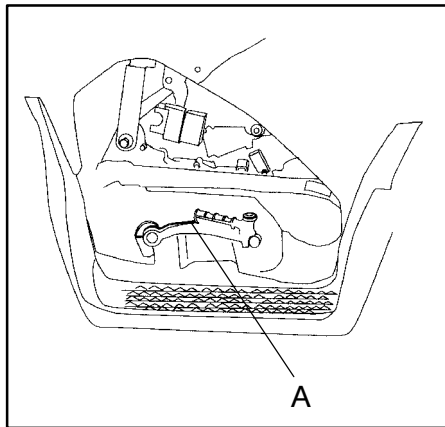


# CONTROL AND PARTS FUNCTIONS

## Kick Starter

If the battery is weak and cannot start the engine, kick start lever will allow vehicle operation until repairs can be made.

1. Be certain your vehicle is on a level surface and the parking brake is set. See page 58.
2. Fold out the kick start lever (A) which is on the left hand side of the machine.
3. Turn the key to "ON" and make sure the stop switch is in the "RUN" position.
4. Placing your foot on the kick start, push your heel downward to crank the engine.
5. Once the engine has started, fold the kickstart lever back into place.



## STARTING THE ENGINE

### Procedure for Starting a Cold Engine

#### **WARNING**

Indicates a potential hazard which could result in severe injury or death.

#### **WARNING**

Never run an engine in an enclosed area. Carbon monoxide exhaust gas is poisonous and can cause severe injury or death. Always start engines outdoors.

#### **CAUTION**

You must allow your vehicle adequate warm up time before operating or engine damage could result.

## STARTING THE ENGINE

1. Set the parking brake.
2. Turn the fuel tank valve to ON.
3. Sit on the vehicle.
4. Attach tether strap to machine and wrist.
5. Turn the engine stop switch to RUN.
6. Turn the ignition key to ON.
7. Press the starter button. **NOTE:** The rear brake lever must be engaged or the engine will not start.
8. Do not press the throttle while starting the engine.
9. Activate the starter for a maximum of five seconds, releasing the button when the vehicle starts. If engine does not start, release the starter and wait five seconds; then activate the starter for another five seconds. Repeat this procedure until engine starts.

After the engine starts, vary the engine RPM slightly with the throttle to aid in warm up until the engine idles smoothly.

# RIDING GEAR

## Safe Riding Gear

Always wear clothing suited to the type of riding you are doing. ATV riding requires special protective clothing which will make you feel more comfortable and reduce chances of injury.

### 1. Helmet

Your helmet is the most important piece of protective gear for safe riding. A helmet can prevent a severe head injury.

Select an approved helmet which meets or exceeds your state's safety standards and bears either the Department of Transportation (DOT) label, the American National Standards Institute label (ANSI z90.1), or the Snell Memorial Foundation label.



# RIDING GEAR

## 2. Eye Protection

Do not depend on sunglasses for proper eye protection. A pair of goggles or helmet face shield offer the best protection for your eyes. They should be kept clean and be of shatterproof design (bearing the markings z2.1 or VESC 8).

## 3. Gloves

Off-road style gloves with knuckle pads are the best for comfort and protection.

## 4. Boots

The best footwear is a pair of strong over the calf type boots with heels, such as motocross boots.

## 5. Clothing

To protect your body, long sleeves and pants should always be worn. Riding pants with kneepads, a jersey and shoulder pads provide the best protection.

# VEHICLE BREAK-IN PERIOD

## 2-Cycle Engines

The break in period for your new Polaris ATV is defined as the time it takes to use the first tank of gasoline. No single action on your part is as important as a proper break in period. Careful treatment of a new engine will result in more efficient performance and longer life for the engine. Perform the following procedures carefully.

### **CAUTION**

Use only Polaris injection oil. Never substitute or mix oil brands. Serious engine damage and voiding of warranty can result.

1. Mix 6.4 ounces of injection oil to two gallons of gasoline in a suitable gas can. Fill the fuel tank as outlined on page 65.
2. Fill the oil tank with Polaris injection oil.

## VEHICLE BREAK-IN PERIOD

3. Drive slowly at first. Select an area which is open and will give you room to familiarize yourself with vehicle operation and handling.

### **CAUTION**

Do not operate at full throttle or high speeds for extended periods during the first three hours of use. Excessive heat can build up and cause damage to close fitted engine parts.

4. Vary the throttle positions.
5. Perform regular checks on fluid levels, controls and all important areas on the vehicle as outlined earlier on the daily pre-ride inspection checklist found on page 20.

## VEHICLE BREAK-IN PERIOD

After the break in period the oil injection system provides the necessary engine lubrication without the need for pre-mixed fuel.

### **CAUTION**

Fill the oil tank when you refuel your ATV. If you don't serious engine damage could result.

After the first tank of pre-mixed fuel has been used please verify that the oil level in the oil tank has dropped, indicating that the oil pump is functioning properly. If the level has not dropped, see your dealer for oil pump bleeding and repeat the pre-mix procedure.



## CARRYING LOADS

The Sportsman 90 has been designed to carry a certain amount of load. CARGO WEIGHT should be evenly distributed (1/3 on the front and 2/3 on the rear) and mounted as low as possible. When operating over rough or hilly terrain, reduce speed and cargo to maintain stable driving conditions. Never exceed the weights specified and never attempt to carry cargo on the Scrambler models.

### **WARNING**

Correct loading of this vehicle is necessary to maintain proper stability and operating characteristics. Overloading or incorrect positioning of the load affects the vehicle's turning, stopping distance and stability. Failure to follow loading requirements could cause severe injury or death.

# CARRYING LOADS



## Important Safeguards

To reduce risk of injury or machine damage when carrying loads, read and follow the warnings listed below:

- **REDUCE SPEED AND ALLOW GREATER DISTANCE FOR BRAKING WHEN CARRYING CARGO.**
- **CARGO WEIGHT DISTRIBUTION** should be 1/3 on the front rack and 2/3 on the rear rack. When operating over rough or hilly terrain, reduce speed and cargo to maintain stable driving conditions. Carrying loads on one rack only increases the possibility of vehicle tip over.

## CARRYING LOADS

- **HEAVY LOADS CAN CAUSE BRAKING AND CONTROL PROBLEMS.** Use extreme caution when applying brakes with a loaded vehicle. Avoid terrain or situations which may require backing downhill.
- **ALL LOADS MUST BE SECURED BEFORE MOVING VEHICLE.** Unsecured loads can create unstable operating conditions, which could result in loss of control of the vehicle.
- **LOADS MUST BE CARRIED AS LOW ON THE RACKS AS POSSIBLE.** Carrying loads high on the racks raises the center of gravity of the vehicle and creates a less stable operating condition. When cargo loads are carried high on the racks, the weight of the loads must be reduced to maintain stable operating conditions.
- **OPERATE ONLY WITH STABLE AND SAFELY ARRANGED LOADS.** When handling off-centered loads which cannot be centered, securely fasten load and operate with extra caution.

## **CARRYING LOADS**

- **EXTREME CAUTION MUST BE USED** when operating with loads extending over the rack sides. Stability and maneuverability may be adversely affected, causing the machine to overturn.
- **DO NOT TRAVEL FASTER THAN THE RECOMMENDED SPEEDS.**

## DAILY PRE-RIDE CHECK

### **WARNING**

You must inspect your ATV each time before riding to ensure it is in proper working order. If proper check is not done, severe injury or death could result.

# DAILY PRE-RIDE CHECK

Use the following checklist to verify your machine is in proper working order each time you ride.

## Item/Inspection Procedure

1. Tires - check condition and pressures
2. Fuel and oil tanks - fill both tanks to their proper levels
3. All brakes - check operation and adjustment.
4. Throttle - check for free operation and closing
5. Brakelight - check for proper operation.
6. Engine stop switch - check for proper function
7. Wheels - check for tightness of wheel nuts and axle nuts; check that axle nuts are secured by cotter pins

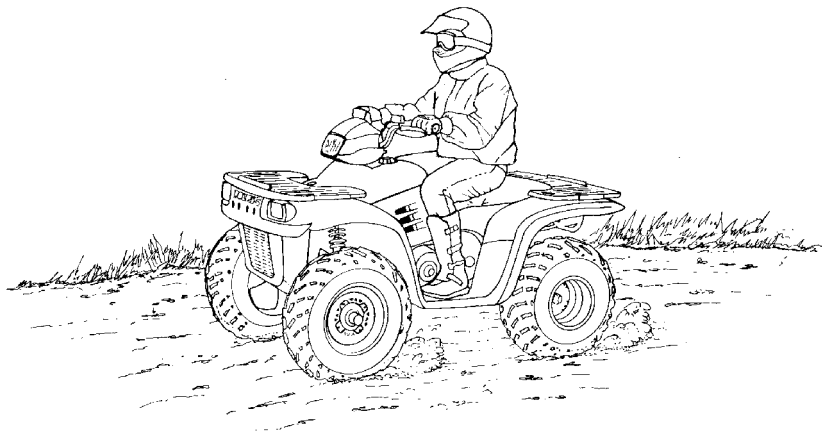
## DAILY PRE-RIDE CHECK

8. Drive chain - condition and slack; refer to drive chain adjustment
9. Air cleaner element - check for dirt; clean or replace
10. Steering - check for free operation noting any unusual looseness in any area
11. Loose parts - visually inspect vehicle for any damaged or loose nuts/bolts or fasteners
12. Operators helmet, goggles and clothing



**Indicates a potential hazard which could result in severe injury or death.**

# RIDING



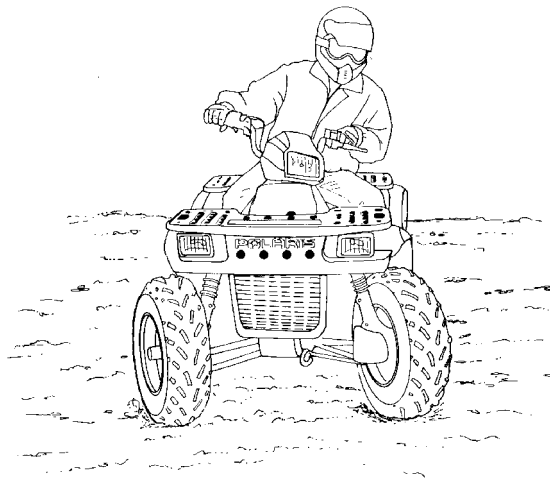


## RIDING

1. Sit upright with both feet on the footrests and both hands on the handlebars.
2. Start the engine and allow it to warm up.
3. Check your surroundings and determine your path of travel.
4. Release the parking brake.
5. Slowly depress the throttle with your right thumb and begin driving. Vehicle speed is controlled by the amount of throttle opening.
6. Drive slowly, practice maneuvering and using the throttle and brakes on level surfaces.

# RIDING

## Making Turns



### **Practice making turns at slow speeds.**

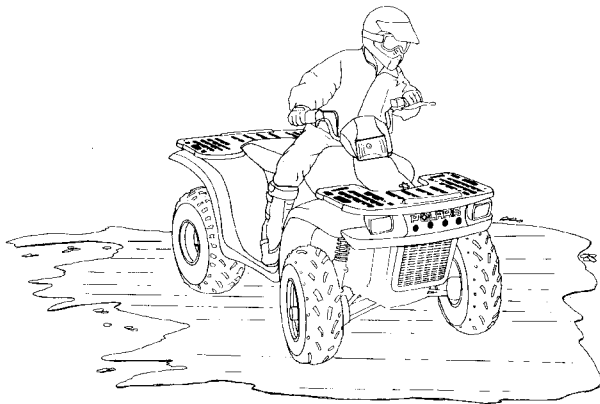
Polaris ATVs are equipped with a solid rear axle which drives both rear wheels equally at all times. This means that the wheel on the outside of the turn must travel a greater distance than the inside wheel when turning and the inside tire must slip traction slightly. To turn, steer in the direction of the turn leaning your upper body to the inside of the turn while supporting your weight on the outer footrest. This technique alters the balance of traction between the rear wheels allowing the turn to be made smoothly.

### **WARNING**

Avoid turning at sharp angles. Tipover and severe injury may result.

# RIDING

## Riding On Slippery Surfaces



**Whenever riding on slippery surfaces such as wet trails or loose gravel, or during cold freezing weather, special attention must be paid to prevent vehicle turnover.**

## Always:

1. Slow down when entering slippery areas.
2. Maintain a high level of alertness, reading the trail and avoiding quick, sharp turns which can cause skids.
3. Correct a skid by turning the handlebars in the direction of the skid and shifting your body weight forward.
4. Never apply brakes during a skid. Complete loss of ATV control can result.
5. Do not operate on excessively slippery surfaces if possible to avoid.
6. Always reduce speed and use additional caution.

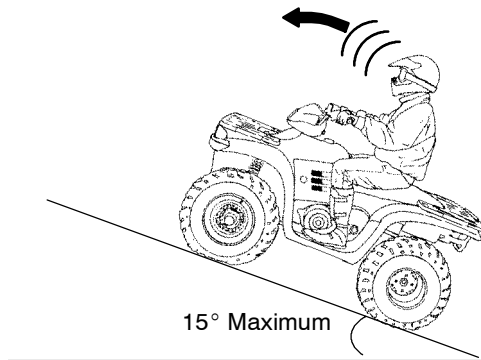
### **WARNING**

Failure to exercise care when operating the ATV on slippery surfaces can be dangerous.

Loss of tire traction and vehicle control can result in an accident, including an overturn.

# RIDING

## Traveling Uphill



### **WARNING**

Do not operate this machine on hilly terrain. If you cannot avoid operating in hilly terrain, use extreme caution. Braking and handling are greatly affected. Loss of vehicle control or overturning of the ATV could occur causing severe injury or death.

#### **If you have to travel uphill always travel straight uphill and:**

1. Avoid steep hills (15° maximum).
2. Keep both feet on the footrests.
3. Transfer your weight forward.
4. Proceed at a steady rate of speed and throttle opening.
5. Remain alert and be prepared to take emergency action. This may include quick dismounting of the ATV.

# RIDING

## Sidehilling





**Avoid traveling across the side of a hill at all costs. In the event you do enter into a situation where sidehilling is unavoidable, always:**

1. Slow down.
2. Lean into the hill transferring your upper body weight up hill while keeping your feet on the footrests.
3. Steer slightly into the hill to maintain vehicle directions.

If vehicle begins to tip, quickly turn the front wheel downhill, if possible, or dismount on the uphill side **immediately!**

### **WARNING**

Improperly crossing hills or turning on hills can be dangerous. Loss of vehicle control or overturning of the ATV could occur causing severe injury or death.

# RIDING

## Traveling Downhill



### **Whenever descending a hill, always:**

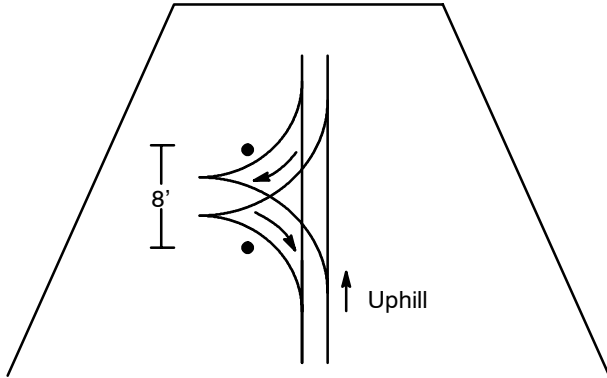
1. Drive directly downhill.
2. Transfer your weight to the rear of the vehicle.
3. Slow down.
4. Apply the the front and rear brakes at the same time and very slightly to aid in slowing.

### **WARNING**

Do not travel at excessive speeds. It is dangerous and can cause loss of vehicle control and tipping, resulting in severe injury or death.

# RIDING

## Turning Around On A Hill



**If the ATV stalls while climbing a hill, never back it down the hill! One maneuver which can be used when it is necessary to turn around while climbing a hill is the K-turn.**

## RIDING

1. Stop and lock the parking brake while maintaining body weight uphill.
2. Shut off engine.
3. Dismount on left or uphill side of ATV.
4. Staying uphill of ATV, turn handlebars full left (while facing front of ATV).
5. While holding service brake, release parking brake lock and slowly allow ATV to roll around to your right until ATV is pointing across the hill or slightly downward.
6. Lock the parking brake and remount ATV from the uphill side, maintaining body weight uphill.
7. Restart engine, release parking brake, and proceed slowly, controlling speed with the service brake, until ATV is on reasonably level ground.

### **WARNING**

Avoid climbing steep hills. Loss of vehicle control or overturning of the ATV could occur resulting in severe injury or death.

# RIDING

## Crossing Streams



**Your Polaris ATV can operate through water up to depths just below the foot-rests.**

## **Before fording streams always:**

1. Determine water depths and current.
  2. Choose a crossing where both banks have gradual inclines.
  3. Proceed slowly, avoiding rocks and obstacles if possible.
  4. After crossing, dry the brakes by applying light pressure to the levers until braking action is normal. If you do not perform this procedure, your brakes may be ineffective.
- Avoid operating the ATV through deep or fast flowing water. If you cannot avoid water which exceeds the recommended maximum depth, go slowly, balance your weight carefully, avoid sudden movements, maintain a slow and steady forward motion. Do not make sudden turns or stops and do not make sudden throttle changes.

**NOTE:** If the vehicle is run in water, it is **critical** the machine is serviced as outlined in the maintenance chart beginning on page 117. The following areas need special attention: engine oil, transmission oil, front and rear gearcases, and all grease fittings.

# RIDING

## Trail Obstacles





### Keep Alert!

Look ahead and learn to read the trail as you ride. Stay on the right side of the trail, if possible, and be constantly alert for hazards such as logs, rocks and low hanging branches.

### **WARNING**

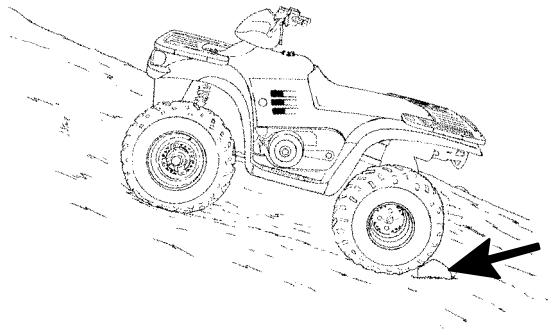
Not all obstacles are visible. Travel with caution on trails. Severe injury or death can result if your machine comes in contact with a hidden obstacle.

### **WARNING**

**Indicates a potential hazard which could result in severe injury or death.**

# RIDING

## Parking on an Incline



## **Whenever the Vehicle is Parked**

1. Turn the engine off.
2. Set the parking brake.
3. Avoid parking on an incline. If it is necessary to park on an incline, always block the rear wheels on the down hill side as shown on the facing page.
4. Shut off fuel supply.

# PVT SYSTEM OPERATION

## PVT System

### **WARNING**

The PVT system rotates at high speeds, creating large amounts of force on clutch components. Extensive engineering and testing has been conducted to insure the safety of this product. However, as the owner you have the following responsibilities to make sure this system remains safe:

- Do not modify any component of the PVT system. Doing so may reduce its strength so that a failure may occur at high speeds. This system has been precision balanced. Any modification will cause the system to be out of balance, creating vibration and additional loads on components.
  - Routine maintenance is the responsibility of the owner. Always follow recommended maintenance procedures. See your dealer!
  - This PVT system is intended for use on Polaris products only.
  - The PVT housing must be securely in place during operation.
- Failure to comply with this warning can result in severe injury or death.

## PVT SYSTEM OPERATION

If the vehicle is operated in dusty areas, it will be necessary to clean the filter more often. To clean the PVT filter:

1. Remove the screws and the crankcase cover.
2. Remove the screws and the filter cover.
3. Soak the filter in a mild detergent and rinse with clean water.
4. Allow the filter to air dry and reinstall it.

### **CAUTION**

If your vehicle is operated in salt water areas, it must be rinsed with fresh water to prevent corrosion that can be caused by exposure to seawater.

# BATTERY

## Battery

### **WARNING**

Only adults should ever touch the battery. **Never allow children** to handle a battery or service a battery in any way.

### **WARNING**

Whenever removing the battery, disconnect the negative (black) cable first. When reinstalling the battery, connect the negative (black) cable last or an explosive situation could result causing serious injury or death.

**⚠ WARNING** Indicates a potential hazard which could result in severe injury or death.

### **⚠ WARNING**

Battery electrolyte is poisonous. It contains sulfuric acid. Serious burns can result from contact with skin, eyes or clothing. Antidote:

**External:** Flush with water.

**Internal:** Drink large quantities of water or milk. Follow with milk of magnesia, beaten egg, or vegetable oil. Call physician immediately.

**Eyes:** Flush with water for 15 minutes and get prompt medical attention.

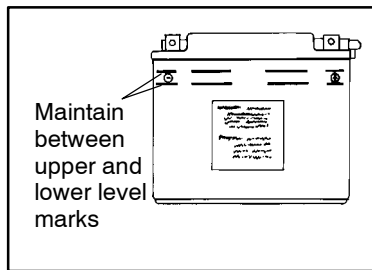
Batteries produce explosive gases. Keep sparks, flame, cigarettes, etc. away. Ventilate when charging or using in an enclosed space. Always shield eyes when working near batteries. **KEEP OUT OF REACH OF CHILDREN.**

# BATTERY

## Replenishing the Battery Fluid

A poorly maintained battery will deteriorate rapidly. Check the battery fluid level often. The fluid level should be kept between the upper and lower level marks.

To refill use only distilled water. Tap water contains minerals which are harmful to a battery.





## Battery Removal

1. Disconnect hold down straps holding the electrical box and battery in position.
2. Disconnect the black (negative) battery cable first.
3. Disconnect the red (positive) battery cable next.
4. Lift the battery out of the ATV, being careful not to tip it sideways and spill electrolyte.

### CAUTION

If electrolyte spills, immediately wash it off with a solution of one tablespoon baking soda and one cup water to prevent damage to the ATV.

### WARNING

**Indicates a potential hazard which could result in severe injury or death.**

# BATTERY

## Battery Installation and Connections

### **WARNING**

To avoid the possibility of explosion, always connect battery cables in the order specified. Red (positive) cable first; black (negative) cable last. An exploding battery can cause serious injury or death.

Battery terminals and connections should be kept free of corrosion.

If cleaning is necessary, remove the corrosion with a stiff wire brush. Wash with a solution of one tablespoon baking soda and one cup water. Rinse well with tap water and dry off with clean rags. Coat the terminals with dielectric grease or petroleum jelly.

Be careful not to allow cleaning solution or tap water into the battery.

## BATTERY

1. Set the battery in its holder.
2. First connect and tighten the red (positive) cable.
3. Second connect and tighten the black (negative) cable.
4. Attach the hold down strap.
5. Verify that cables are properly routed.

### NOTE:

- When your ATV is placed in storage for three months or more, the battery should be removed, charged to proper level, and stored in a cool dry place.
- Before reusing, take the battery to your dealer for testing and recharging.
- When installing a new battery, make certain it is fully charged prior to its initial use. Using a battery that is not fully charged can damage the battery resulting in a shorter life of the battery. It can also hinder vehicle performance.

# **NOISE EMISSION CONTROL SYSTEM REGULATION**

## **TAMPERING WITH NOISE CONTROL SYSTEM PROHIBITED!**

U.S. Federal law prohibits the following acts or the causing thereof:

(1) The removal or rendering inoperative by any person other than for purposes of maintenance, repair, or replacement of any device or element of design incorporated into any new vehicle for the purpose of noise control prior to its sale or delivery to the ultimate purchaser or while it is in use or

(2) the use of the vehicle after such device or element of design has been removed or rendered inoperative by any person.

**ACTS PRESUMED TO CONSTITUTE TAMPERING ARE THE ACTS LISTED BELOW INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING:**

1. Removal or alteration or the puncturing of the muffler or any engine component which conducts removal of engine exhaust gases.

## NOISE EMISSION CONTROL SYSTEM REGULATION

2. Removal or alteration or the puncturing of any part of the engine air induction system.
3. Replacement of any vehicle parts with parts not in compliance with federal regulations.
4. Lack of proper maintenance.

### CAUTION

Engine and exhaust parts can become very hot after use. Be careful not to touch any engine or exhaust components or serious burns could result.

- Be careful when traveling through tall grass. The potential for fire exists.

# **NOISE EMISSION CONTROL SYSTEM REGULATION**

## **USFS Approved Spark Arrestor**

Most Polaris ATVs have mufflers that were tested and approved in accordance with the USFS Forest Service Standard 5100-1A.

# MAINTENANCE

## Tool Kits

To help you perform routine maintenance, a tool kit is provided in the storage compartment under the seat. Items included in the kits are:

### 2-cycle engines

- spark plug wrench with Phillips head screwdriver
- tire pressure gauge

## Periodic Maintenance Schedule

Careful periodic maintenance will help keep your vehicle in the safest, most reliable condition. Inspection, adjustment and lubrication intervals of important components are explained in the following chart on the following pages.

## MAINTENANCE

Maintenance intervals are based upon average riding conditions and an average vehicle speed of approximately 10 miles per hour. Vehicles subjected to severe use, such as operation in wet or dusty areas, should be inspected and serviced more frequently. If you are not familiar with safe service and adjustment procedures, have a qualified dealer perform these operations.

Inspect, clean, lubricate, adjust or replace parts as necessary. **NOTE:** Inspection may reveal the need for replacement parts. Always use genuine Polaris parts available from your Polaris dealer.

Service and adjustments are critical. If you are not familiar with safe service and adjustment procedures, have a qualified dealer perform these operations.

### CAUTION

Due to the nature of the adjustments marked with a ■ on the following chart, it is recommended that service be performed by an authorized Polaris dealer.



## MAINTENANCE

► **More often under severe use, such as dirty or wet conditions**

	Item	Hours or Miles	When	Remarks
	Brake System	Pre-ride	Pre-ride	Pre-ride inspection item
	Tires	Pre-ride	Pre-ride	Inspect daily, pre-ride inspection item
	Wheels	Pre-ride	Pre-ride	Pre-ride inspection item
	Frame nuts, bolts, fasteners	Pre-ride	Pre-ride	Pre-ride inspection item
	Oil Level	Daily	Daily	Check when refueling
►	Air Filter	Daily	Daily	Inspect-Clean
■	Brake pad wear	10 hrs/100 miles	Monthly	Inspect periodically
	Battery	20 hrs	Monthly	Check Terminals/clean/check fluid level

# MAINTENANCE

## Periodic Maintenance Schedule (Cont.)

### CAUTION

Due to the nature of the adjustments marked with a ■ on the following chart, it is recommended that service be performed by an authorized Polaris dealer.

#### More often under severe use, such as dirty or wet conditions

	Item	Hours or Miles	When	Remarks
	Oil Pump Cable	50 hrs	6 months	Inspect, adjust, lubricate, replace if required
	Carburetor Float Bowl	50 hrs	6 months	Drain bowl periodically and prior to storage

## MAINTENANCE

	Item	Hours or Miles	When	Remarks
■	Throttle Cable/ ETC Switch	50 hrs	6 months	Inspect-adjust, lubricate, replace if necessary; pre-ride inspection item
▶	Steering	50 hrs	6 months	Inspect daily, lubricate
▶	Rear Axle	50 hrs	6 months	Inspect bearings, Lube
▶	Front Suspension	50 hrs	6 months	Inspect-lubricate, tighten fasteners
▶	Rear Suspension	50 hrs	6 months	Inspect, tighten fasteners
▶	Drive Chain	50 hrs	6 months	Inspect daily, adjust and lubricate if needed
■	Clutches (drive and driven)	100 hrs	12 months	Inspect, clean

## MAINTENANCE

### CAUTION

Due to the nature of the adjustments marked with a ■ on the following chart, it is recommended that service be performed by an authorized Polaris dealer.

► **More often under severe use, such as dirty or wet conditions**

	Item	Hours or Miles	When	Remarks
	Engine Mounts	100 hrs	12 months	Inspect
	Spark Plug	100 hrs	12 months	Inspect-replace if necessary
■	Ignition Timing	100 hrs	12 months	Inspect and adjust as needed

## MAINTENANCE

	Item	Hours or Miles	When	Remarks
■	Fuel System	100 hours	12 months	Check for leaks at tank cap, lines, fuel valve, filter, pump and carburetor. Replace lines every two years.
■	Fuel Filter	100 hrs	12 months	Replace annually
	Spark arrestor	100 hrs	12 months	Clean out
■	Front wheel bearings	300 hrs	36 months	Inspect, replace if necessary
■	Idle Speed	As Required	As Required	Adjust
■	Toe adjustment	As required	As required	Periodic inspection, adjust when parts are replaced

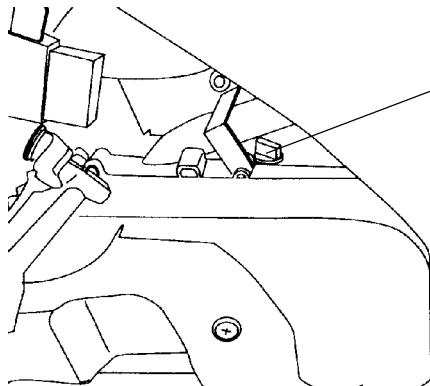
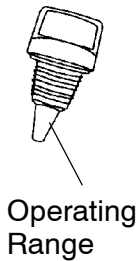
# MAINTENANCE

## Lubrication Recommendations

Item	Lube Rec.	Method	Frequency*
1. Engine Oil	Polaris Injection Oil	Fill oil tank. See page 63.	As needed, when refueling
2. Transmission Oil	Polaris Premium Synthetic gear case lube	See Page 148	Change annually or at 100 hours

# MAINTENANCE

## Lubrication Recommendations



2. Transmission  
(plug)

## MAINTENANCE

3. Drive Chain	O-Ring chain lube or SAE 80/90	Lubricate as often as required. Before each ride in wet conditions	As required
4. Front A-Arm	★ Grease **	Locate fittings and grease	Every 3 months or 50 hours

★ More often under severe use, such as wet or dusty conditions.

\*\*Polaris Premium all Season Grease or grease conforming to NLGI No. 2, such as Conoco Superlube M or Mobilegrease Special.

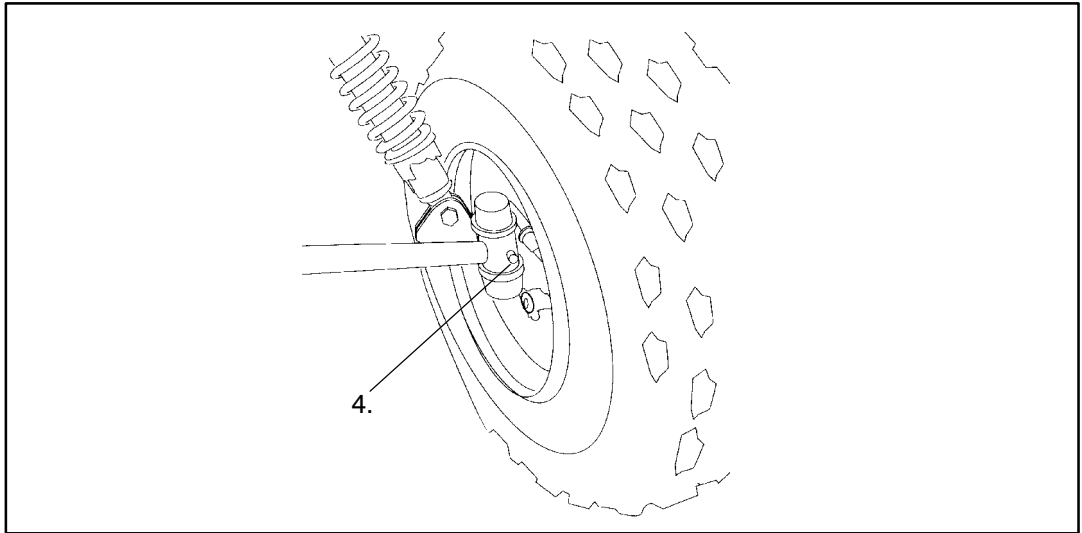
+ Grease every 40 hours or approximately 500 miles, or after submerging in water or before long periods of storage or after pressure washing. Always use Polaris Premium U-Joint Lube for maximum service of these driveline components (PN 2871515 3 oz.)(PN 2871551 14 oz.).

△ When suspension action becomes stiff or after washing.



# MAINTENANCE

**NOTE:** Hours are based on 10 mph average.



# MAINTENANCE

## Periodic Maintenance Record

Use the following chart to record periodic maintenance work:

Maintenance Interval Performed	Servicing Date	Servicing Dealer or Person	Remarks
First 5 Hrs.			
25 Hrs.			
50 Hrs.			
75 Hrs.			
100 Hrs.			

# MAINTENANCE

Maintenance Interval Performed	Servicing Date	Servicing Dealer or Person	Remarks

## MAINTENANCE

### **WARNING**

Improper adjustment of the handlebars or incorrect torquing of the adjuster block tightening bolts can cause limited steering or loosening of the handlebars, resulting in loss of control and possible serious personal injury or death.

### **Handlebar Adjustment**

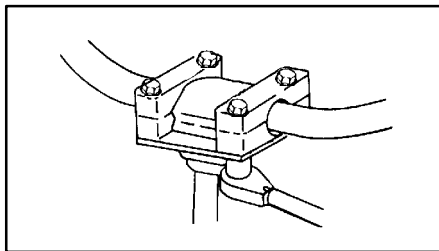
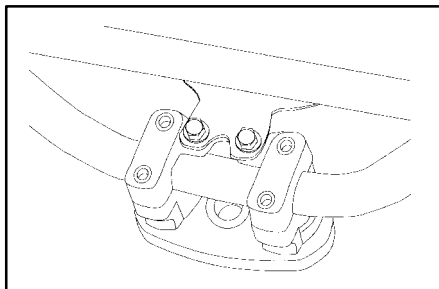
Your ATV has handlebars which can be adjusted for your personal fit.

1. Locate handlebar bolts. On models with a headlight pod, it will be necessary to remove the upper “headlight” pod. On other models remove the handlebar cover.

## MAINTENANCE

2. Loosen the four bolts.
3. Adjust handlebar to desired height. Be sure handlebars do not hit gas tank or any other part of machine when turned fully to left or right.
4. Torque handlebar adjuster block bolts to 7.3 ft. lbs.

**NOTE:** Tighten bolts so there is an equal gap at the front and rear of the handlebar block. Improper gap will result in improper fit of upper pod.



## MAINTENANCE

The following items should be checked occasionally for tightness; or if they have been loosened for maintenance service.

### Axle and Wheel Nut Torque Specifications

Specification	
Front Spindle Nuts	43 ft. lbs
Rear Spindle Nuts	80 ft. lbs.

**NOTE: All nuts that have a cotter pin installed must be serviced by an authorized Polaris Dealer.**

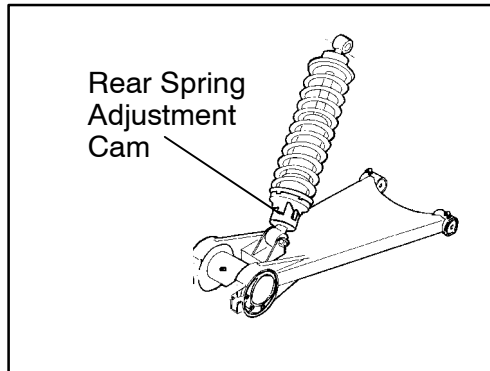
### Front Wheel Hub Tightening

Front wheel bearing tightness and spindle nut retention are critical component operations. Service work must be performed by your authorized Polaris dealer.

## MAINTENANCE

### Rear Spring Adjustment

The rear shock absorber spring is adjusted by rotating the adjuster in the direction required to increase or decrease spring tension.



## **MAINTENANCE**

### **Air Cleaner**

Inspect the filter weekly or after every 50 hours of operation. If the vehicle is ridden in wet or dusty conditions, clean the filter more often.

### **CAUTION**

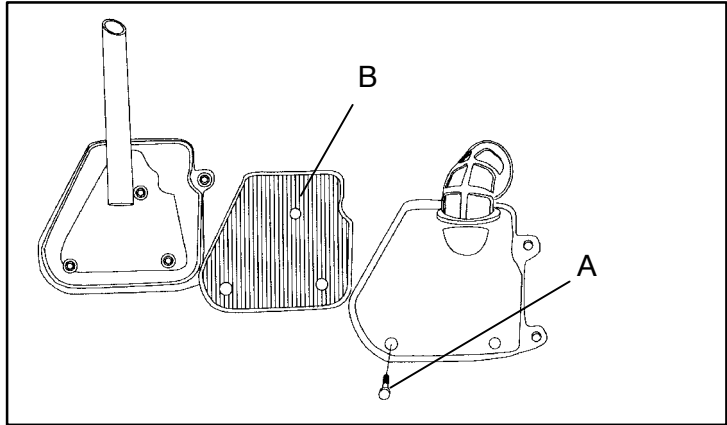
Never operate the ATV with the filter element removed. Dirt will enter the engine causing serious rapid wear and damage to the engine.



# MAINTENANCE

## To clean the filter:

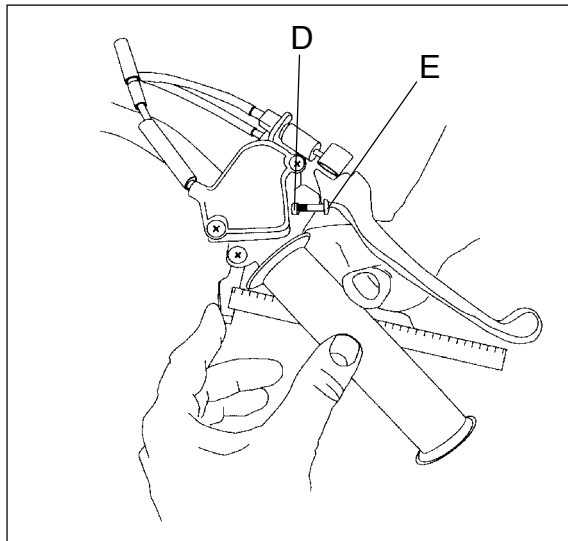
1. Remove the screws on the airbox (A) and remove the filter (B).
2. Soak the filter in a mild detergent and rinse it in clean water.
3. Let the filter air dry and reinstall in the air box.



# MAINTENANCE

## Throttle Stop System

The throttle stop system controls how far the throttle opens. To adjust, loosen the jam nut (D), turn the screw (E) inward to reduce speed and outward to increase speed. Tighten the jam nut after adjusting.



## MAINTENANCE

### Exhaust System Restrictor

The exhaust restrictor system restricts exhaust gas flow, reducing the maximum power output of the engine.

### Exhaust System Restrictor Removal

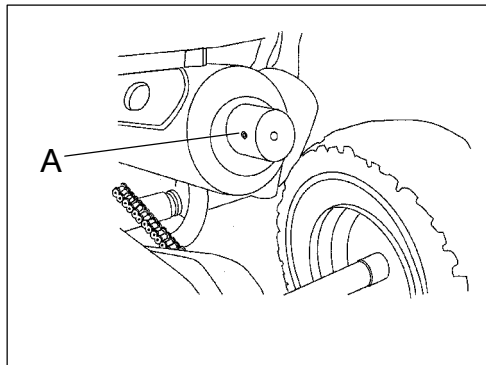
The Scrambler 50 utilizes a restrictor at the headpipe exhaust flange **and** at the spark arrestor.

Make certain the engine and exhaust system is cool to avoid burns.

Loosen the set screw (A) of the exhaust

restrictor on the spark arrestor and remove the exhaust restrictor.

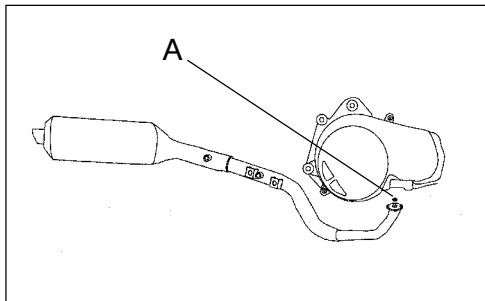
Remove the nuts at the headpipe exhaust flange, the center mount bracket bolts, and the spark arrestor fasteners.



## MAINTENANCE

Lower the exhaust system and remove the restrictor washer (A).

Re-install the head pipe exhaust flange nuts, the center mount bolt, and the spark arrester fasteners. Torque the spark arrester first, then the center mount bolt and the head pipe flange nuts last. Torque to 10 ft. lbs. (1.0 kgf-m)



### Spark Arrester Restrictor

The Scrambler 90 and the Sportsman 90 utilize a restrictor at the spark arrester only.

Make certain the engine and exhaust system is cool to avoid burns.

Loosen the set screw of the exhaust restrictor on the spark arrester and remove the exhaust restrictor.

### Steering Inspection

The steering assembly of the machine should be checked periodically for loose nuts and bolts. If loose nuts and bolts are found, have your dealer tighten them before riding your vehicle.

### Camber and Caster

The camber and caster are non-adjustable.

#### **WARNING**

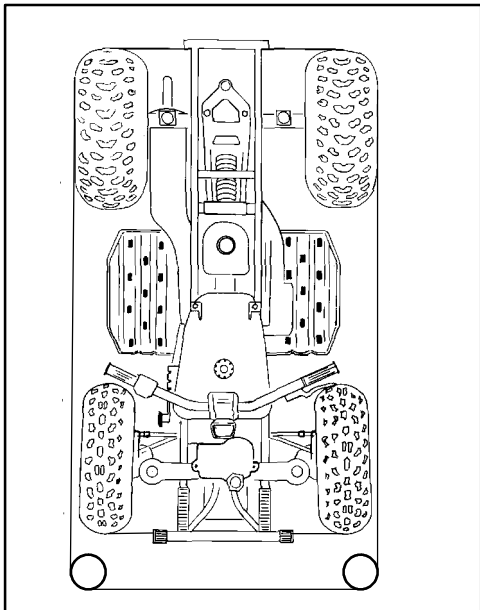
Do not attempt to adjust the tie rod for toe alignment. Severe injury or death can result from improper adjustment. Contact your Polaris dealer. He/she has the training and tools to make these adjustments.

# MAINTENANCE

## Toe Alignment

You can check the toe alignment of the vehicle using the following method. The recommended toe alignment is 1/8" to 1/4" (.3 to .6 cm) toe out. If you discover improper adjustment have your dealer correct it.

1. Set the handlebars in a straight ahead position and hold them in this position.  
**NOTE:** The steering frog can be used as an indicator of whether the handlebars are straight. The frog should always point straight back from the steering post.



### Toe Alignment (cont.)

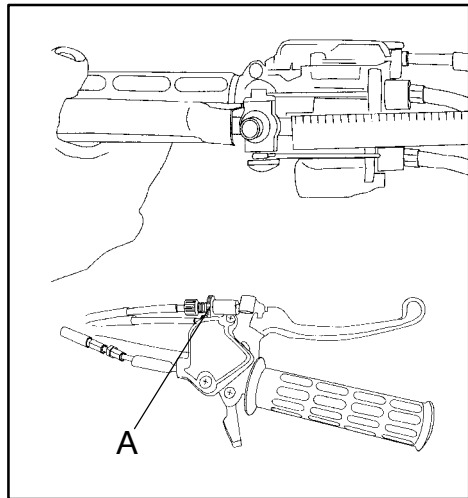
2. Place stands in front of the machine, perpendicular to the rear tires.
3. Tie an elastic string around the stands, making sure string just touches side surface of the rear tires on each side of machine and goes around the stands in front of the machine.
4. Measure from string to rim at front and rear of front rim. Rear rim measurement should be  $1/16'' - 1/8''$  (.2 to .3 cm) more than front rim measurement.
5. If this measurement needs to be adjusted, contact your dealer for service.

# 140MAINTENANCE

## Brake Adjustment

Periodically check the freeplay of the front and rear brakes. Refer to the chart below for the acceptable range of freeplay for your machine.

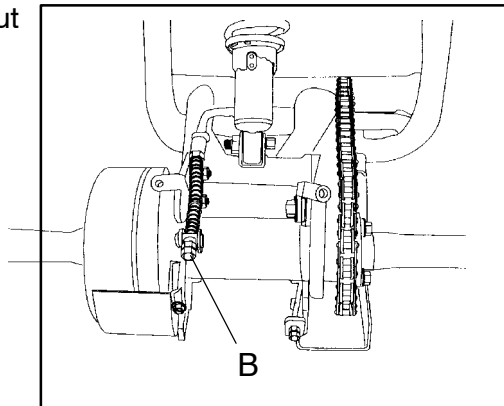
To adjust the front brake, turn the adjustment knob (A) until the freeplay is acceptable.





## MAINTENANCE

To adjust the rear brake, turn the adjuster nut (B) until the proper freeplay is attained.

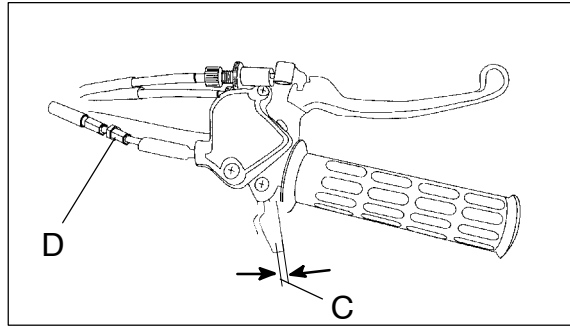


## MAINTENANCE

<b>Brake Freeplay Adjustment</b>		
<b>Model</b>	<b>Front</b>	<b>Rear</b>
Sportsman 90	.39" - .78" 10 mm - 20 mm	.39" - .78" 10 mm - 20 mm
Scrambler 90	.39" - .78" 10 mm - 20 mm	.39" - .78" 10 mm - 20 mm
Scrambler 50	.1" - .39" 2.5mm - 9.9 mm	.15" - .30" 3.8mm - 7.6mm

## Throttle Cable Adjustment

Always check the throttle for smooth operation before riding. Periodically check the throttle freeplay. It should be kept between 1/16" and 1/8" (1.5mm - 3.2mm) (C). If adjustment is required, turn the adjustment nut (D) until the freeplay falls in to the acceptable limit.



### **⚠️ WARNING**

**Indicates a potential hazard which could result in severe injury or death.**

# MAINTENANCE

## Spark Plugs

The spark plug required for this machine is NGK BP7HS or NGK BPR7HS. Incorrect spark plug gap can cause the spark plugs to foul. The spark plug gap should be between 0.6 - 0.7 mm.

The spark plug and its condition is indicative of engine operation. The spark plug firing end condition should be read after the engine is warmed up and the vehicle is driven at higher speeds. Immediately check the spark plug for correct color.

### 1. Normal

The insulator tip is gray, tan or light brown. There will be few combustion deposits. The electrodes are not burned or eroded. This indicates the proper type and heat range for the engine and the service.

**NOTE:** The tip should not be white. A white insulator tip indicates overheating, caused by use of an improper spark plug or incorrect carburetion adjustments.

### 2. Wet Fouled

The insulator tip is black. A damp oil film covers the firing end. There may be a carbon layer over the entire nose. Generally, the electrodes are not worn. General causes are excessive oil, use of non-recommended injection oil, improper use of the choke, or incorrect carburetion adjustments.

### Spark Plug Removal and Replacement

#### **WARNING**

Never attempt to remove a spark plug while the engine is warm. The exhaust system or engine could burn you causing severe injury.

The spark plug is removed by using the special wrench provided in the tool pouch. Remove the spark plug cap and then the spark plug by rotating counterclockwise. Reverse the procedure for spark plug installation. Torque to 17 ft. lbs. Never deviate from the recommended spark plug as engine damage can occur.

# MAINTENANCE

## Storage

Proper preparation of the engine and fuel system is vital to the prevention of rust and corrosion of engine parts.

Whenever the machine is stored for a period of more than 60 days, the engine must be fogged, following the fogging instructions on the can.

Always add a fuel conditioner/stabilizer to the fuel tank. Run the engine for five minutes to get the additives through the entire fuel system and top off with fuel.

Fuel additive products are available through your Polaris dealer.

**NOTE:** Before storing the machine, add lubricant to the fuel in the tank at a 40:1 ratio and then run the engine for three to five minutes. This will lubricate the fuel pump diaphragm to keep it flexible and help prevent loss of prime.

Jet restriction caused by improper storage can cause lean conditions and very poor slow speed driving quality.

## MAINTENANCE

### Cylinder Head/Cylinder Base Fastener Torque (2-Cycle Models)

Have your dealer check the ATV cylinder head and cylinder base fasteners for proper torque at the first service or after 25 hours.



**WARNING**

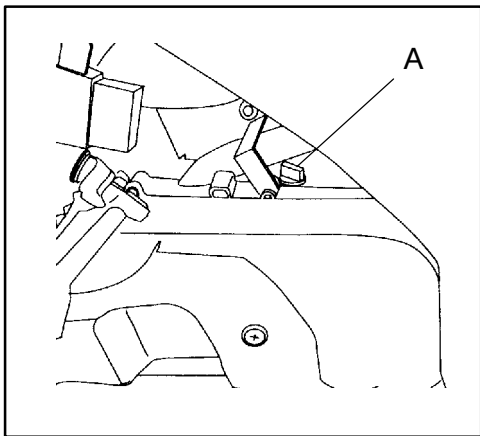
**Indicates a potential hazard which could result in severe injury or death.**

## MAINTENANCE

### Transmission Lubrication

The transmission dipstick (A) is located on the top of the transmission.

The transmission lubricant level should be checked monthly. Transmission oil should be changed annually. With the ATV on a level surface, remove fill plug dipstick and check the lubricant level. Lubricant should be kept at the full mark on the dipstick. The correct transmission lubricant to use is Polaris Premium Synthetic Gearcase Lubricant (PN 2871478).





## Transmission Oil Changing Procedure

1. Remove fill plug/dipstick.
2. Remove transmission drain plug and drain the oil. Catch and discard used oil properly.
3. Clean and reinstall the drain plug.
4. Add Polaris Premium Synthetic Gearcase Lubricant (PN 2871478 - 12 oz. bottle) to full mark on the fill plug/dipstick.
5. Check for leaks.

## MAINTENANCE

### **WARNING**

Operating your ATV with worn tires, improperly inflated tires, non-standard tires or improperly installed tires will affect vehicle handling which could cause an accident resulting in serious injury or death.

Follow the safeguards listed below to prevent this type of situation.

## Important Safeguards

Maintain proper tire pressure according to chart on page 152. Improper tire inflation may affect ATV maneuverability.

Do not use improper tires. The use of non-standard size or type tires may affect ATV handling.

Make certain the wheels are installed properly. If wheels are improperly installed it could affect vehicle handling and tire wear.

## Wheel Removal Procedure

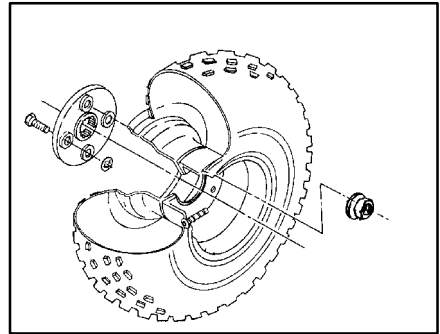
1. Stop the engine, place the transmission in gear and lock the parking brake.
2. Loosen the wheel nuts slightly.
3. Elevate the side of the vehicle by placing a suitable stand under the footrest frame.
4. Remove the wheel nuts and remove the wheel.

## MAINTENANCE

		<b>Tire Size</b>	<b>PSI</b>	<b>Wheel Nut Torque</b>
Scrambler 50	Front	16 x 8 - 7	2	22 ft. lbs
	Rear	16 x 8 - 7	2	22 ft. lbs
Scrambler 90	Front	18 x 7 - 7	<b>3</b>	22 ft. lbs
	Rear	18 x 9.5 - 8	<b>3</b>	22 ft. lbs
Sportsman 90	Front	19 x 7 - 8	<b>3</b>	22 ft. lbs
	Rear	18 x 9.5 - 8	<b>3</b>	22 ft. lbs

## Wheel Installation

1. With the park brake locked, place the wheel in the correct position on the wheel hub. Be sure the valve stem is toward the outside and rotation arrows on the tire point toward forward rotation.
2. Attach the wheel nuts and finger tighten them.
3. Lower the vehicle to the ground.
4. Securely tighten the wheel nuts according to the chart found on page 152:



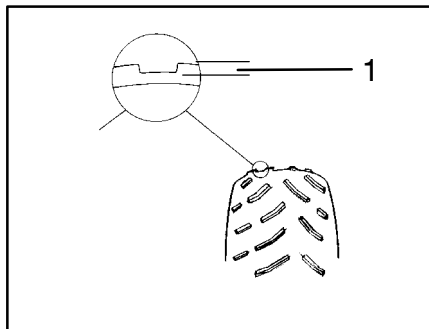
# MAINTENANCE

## Tire Inspection

When replacing a tire always use original equipment size and type.

## Tire Tread Depth

Always replace tires when tread depth is worn to 1/8" (.3 cm) (1) or less.



### Drive Chain Inspection and Adjustment

Polaris ATV drive chains are equipped with O-ring sealed permanently greased pins and rollers. However, it is still necessary to lubricate the outer surfaces of the roller.

#### CAUTION

Never wash the chain with a high pressure washer or gasoline. Damage to the O-rings will result, causing premature wear and drive chain failure.

Regularly lubricate the drive chain with SAE 80-90 lube or an approved O-ring chain spray lube.



**Indicates a potential hazard which could result in severe injury or death.**

## **MAINTENANCE**

### **Drive Chain Inspection and Adjustment (Cont.)**

#### **CAUTION**

The adjuster stud must be held secure when tightening jam nuts or the stud may break.

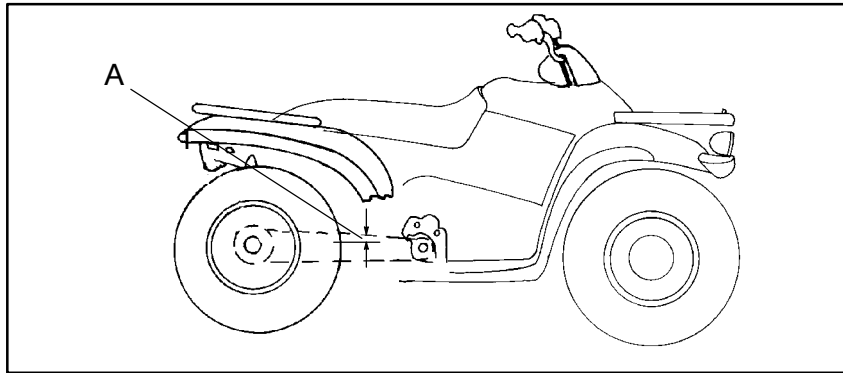


## Rear Drive Chain Slack Adjustment

### CAUTION

Never adjust or operate the vehicle with the rear drive chain too loose or too tight as severe damage to the transmission and drive components can result.

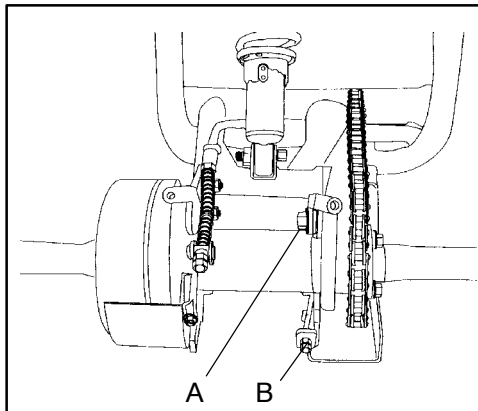
The normal chain slack should be kept between .40" - .80" (10-20 mm) (A).



# MAINTENANCE

## Adjustment Procedure

1. Loosen 4 rear housing mount bolts (A).
2. Tighten chain adjuster (B) to reduce slack to recommended setting. (.4" - .8" / 10 mm - 20 mm)
3. Tighten jam nuts on chain adjuster.
4. Tighten the four rear housing mount bolts.

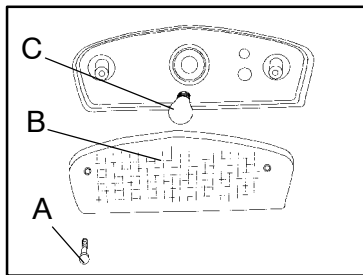


## MAINTENANCE

### Brakelight Lamp Replacement

If the brakelight does not work the lamp may need to be replaced.

1. From the rear of the brake light remove two screws (A) holding lens cover in place and remove lens cover (B).
2. Remove lamp (C) and replace it with recommended lamp.
3. Test the brakelight to see that it's working.
4. Reinstall the lens cover removed in step 1.



## **MAINTENANCE**

### **Cleaning Your ATV**

Keeping your ATV clean will not only improve its appearance but it can also extend the life of various components. With a few precautions, your ATV can be cleaned much like an automobile.

#### **Washing**

If a high pressure type car wash system is used, extreme care must be taken to avoid water damage to the wheel bearings, transmission seals, body panels, brakes and warning labels. Many expensive repair bills can result from using high pressure detergent systems.

**NOTE:** If a high pressure car wash is used, grease all zerk fittings immediately after washing. Also run the vehicle to evaporate any water that might have entered the engine or exhaust system.

## MAINTENANCE

The best and safest way to clean your ATV is with a garden hose and a pail of mild soap and water. Use a professional type washing mitt, cleaning the upper body first and the lower parts last. Rinse with water frequently and dry with a chamois to prevent water spots. **NOTE:** If warning labels are damaged, contact your a Polaris dealer for free replacement.

### Waxing

Your ATV can be waxed with any non-abrasive automotive paste wax. Avoid the use of harsh cleaners since they can scratch the body finish.

### CAUTION

Certain products, including insect repellants and chemicals, will damage plastic surfaces. Care must be taken when using these products near plastic surfaces.

# MAINTENANCE

## Transporting

Whenever the ATV is to be transported the following measures should be taken.

1. Turn the fuel valve to off.
2. Be certain the fuel cap, oil cap, and seat are installed correctly.
3. Always tie the frame of the ATV to the transporting unit securely using suitable straps or rope.
4. Always lock the parking brake.

### Carburetor Adjustments

If the vehicle is to be operated at various altitudes and temperatures, certain adjustments can be made to improve its operation and driveability. Above 6000 feet (1800 m) the engine air/fuel mixture becomes overly rich. An engine loses approximately 3% of its power for each 1000 foot (304.8 m) increase in elevation. Although this power cannot be regained, changes to the carburetor and drive system can be made to allow efficient operation. These changes include:

1. Carburetor re-jetting to compensate for altitude and/or temperature changes.
2. Transmission convertor modification to adjust for engine horsepower loss during high altitude operation. Contact your dealer.
3. On 2 cycle models, air screw adjustments can be made to compensate for temperature changes and/or changes in altitude.

**NOTE:** Contact your dealer for altitude adjustments. They have the training and special tools required to perform all necessary modifications for you.

## SPECIFICATIONS

<b>Specifications - Scrambler 50</b>	
Rider Capacity	1
Displacement	49cc
Cooling	Fan Cooled
Engine type	2-Stroke
Lubrication	Oil Injected
Oil Capacity	1.1 quarts (1 liter)
Fuel Capacity	1.3 gallons (5 liters)
Starting	Electric with kick-start backup
Transmission	Automatic CVT
Front Suspension	A-Arm with 2" (5 cm) of travel
Rear Suspension	Spring over shock with 4.25 " (10.8 cm) of travel



## SPECIFICATIONS

<b>Specifications - Scrambler 50</b>	
Front/Rear Brakes	Drum
Parking Brake	Mechanical Lock
Front Tires / PSI	16 x 8-7 (2psi)
Rear Tires / PSI	18 x 9.5 - 8 (2psi)
Turning Radius	74.8" (190 cm)
Wheel Base	35.4" (90 cm)
Dry Weight	211.6 lbs (96 kgs)
Length	54.6" (138.7 cm)
Width	34" (86.3 cm)
Height	34.7" (88.2 cm)
Brake Light	Standard
Low Oil Light	Standard

## SPECIFICATIONS

<b>Specifications - Scrambler 90</b>	
Rider Capacity	1
Displacement	89cc
Cooling	Fan Cooled
Engine type	2-Stroke
Lubrication	Oil Injected
Oil Capacity	1.1 quarts (1 liter)
Fuel Capacity	1.3 gallons (5 liters)
Starting	Electric with kick-start backup
Transmission	Automatic CVT
Front Suspension	A-arm with 4.25" (10.8 cm) of travel
Rear Suspension	Spring over shock with 4.25" (10.8 cm) of travel

## SPECIFICATIONS

<b>Specifications - Scrambler 90</b>	
Front/Rear Brakes	Drum
Parking Brake	Mechanical Lock
Front and Rear Tires / PSI	18 x 7 - 7 (2psi)
Turning Radius	98.4" (250 cm)
Wheel Base	35.4" (90 cm)
Dry Weight	233.7 lbs (106 kgs)
Length	56.1" (142.4 cm)
Width	34" (86.3 cm)
Height	36.1" (91.8 cm)
Brake Light	Standard
Low Oil Light	Standard

## SPECIFICATIONS

<b>Specifications - Sportsman 90</b>	
Rider Capacity	1
Displacement	89cc
Cooling	Fan Cooled
Engine type	2-Stroke
Lubrication	Oil Injected
Oil Capacity	1.1 qts. (1 ltr)
Fuel Capacity	1.3 ga. (5 ltr)
Starting	Electric with kick-start backup
Transmission	Automatic CVT
Front Suspension	A-arm with 4.25 in / 10.8 cm of travel
Rear Suspension	Spring over shock with 4.25 in / 10.8 cm of travel

## SPECIFICATIONS

<b>Specifications - Sportsman 90</b>	
Front/Rear Brakes	Drum
Parking Brake	Mechanical Lock
Front Tires / PSI	19 x 7 - 8 (3 psi)
Rear Tires / PSI	18 x 9.5 - 8 (3 psi)
Wheel Base	37.8" (96 cm)
Turning Radius	98.4" (250 cm)
Dry Weight	238.1 lbs (108 kgs)
Length	57.6" (146.3 cm)
Width	34.4" (87.4 cm)
Height	36.6" (93 cm)
Brake Light	Standard

## SPECIFICATIONS

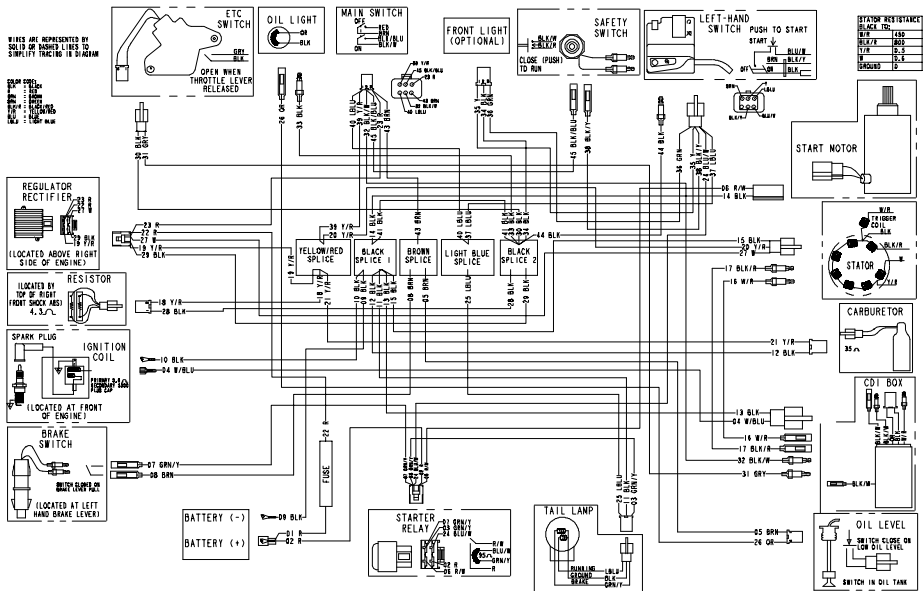
<b>Specifications - Sportsman 90</b>	
Low Oil Light	Standard
Front Rack Capacity	10 lb (4.5 kgs)
Rear Rack Capacity	20 lb (9 kgs)

### **Accessories**

There are a wide range of Polaris Accessories available for ATVs. Contact your Polaris dealer to find out about the accessories available for your machine.



# WIRING DIAGRAM

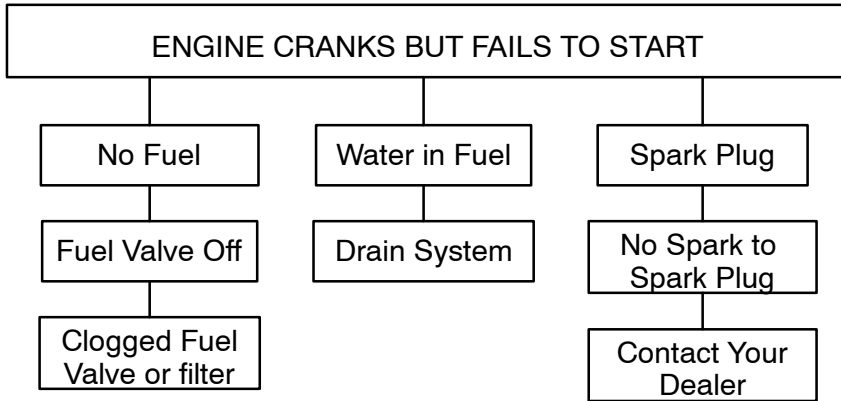




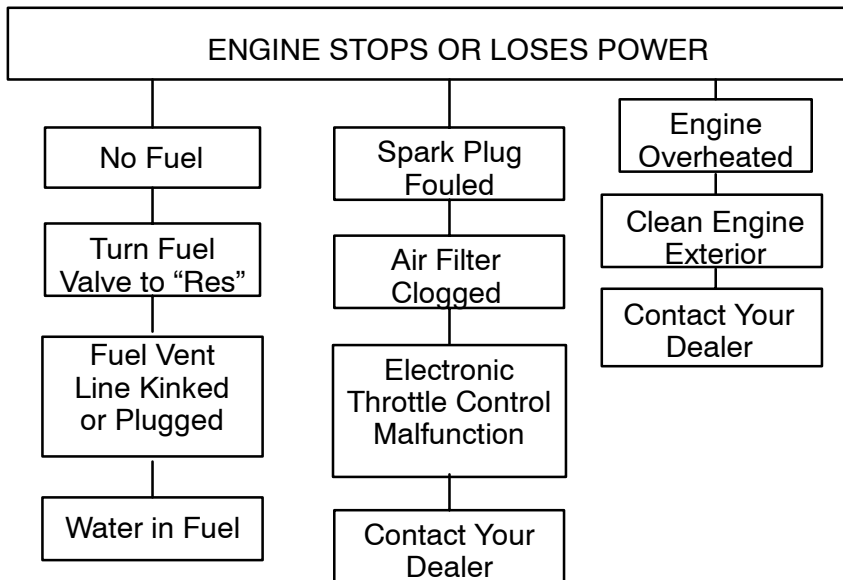
# TROUBLESHOOTING

## Procedures

The following information is provided to help you identify probable causes for questions you may have about the operation of your ATV. See your Polaris dealer with any additional questions you may have.



# TROUBLESHOOTING



# WARRANTY

## LIMITED WARRANTY

Polaris Industries Inc., 2100 Highway 55, Medina, MN 55340, gives a SIX MONTH LIMITED WARRANTY on all components of the Polaris All Terrain Vehicle (ATV) against defects in material or workmanship. Polaris also gives a one year limited warranty on the final drive chain for failure due to defects. This warranty covers the parts and labor charges for repair or replacement of defective parts which are covered by this warranty. This warranty begins on the date of purchase. This warranty is transferable to another consumer during the warranty period through a Polaris dealer. There is a charge of \$35.00 payable to Polaris Industries Inc.

# WARRANTY

## REGISTRATION

At the time of sale, the Warranty Registration Form must be completed by your dealer and submitted to Polaris within ten days. Upon receipt of this registration, Polaris will record the registration for warranty. **THE PURCHASER MUST COMPLETE AN ATV SAFETY TRAINING COURSE PROVIDED BY THE DEALER IN ORDER TO HAVE VALID WARRANTY ON THE ATV.** No verification of registration will be sent to the purchaser as the copy of the Warranty Registration Form will be the warranty entitlement. If you have not signed the original registration and received the “customer copy”, please contact your dealer immediately. **NO WARRANTY COVERAGE WILL BE ALLOWED UNLESS YOUR ATV IS REGISTERED WITH POLARIS.**

Initial dealer preparation and set-up of your ATV is very important in ensuring trouble-free operation. Purchasing a machine in the crate or without proper dealer set-up will void your warranty coverage.

# WARRANTY

## WARRANTY COVERAGE AND EXCLUSIONS:

### LIMITATIONS OF WARRANTIES AND REMEDIES

The Polaris limited warranty excludes any failures that are not caused by a defect in material or workmanship. This warranty does not cover accidental damage, normal wear and tear, abuse or improper handling. This warranty also does not cover any ATV that has been altered structurally, modified, neglected, improperly maintained, used for racing, or used for purposes other than for which it was manufactured, or for any damages which occur during trailer transit or as a result of unauthorized service or the use of unauthorized parts. In addition, this warranty does not cover physical damage to paint or finish, stress cracks, tearing or puncturing of upholstery material, corrosion, or defects in parts, components or the ATV due to fire, explosions or any other cause beyond Polaris' control.

## WARRANTY

This warranty does not cover the use of unauthorized lubricants, chemicals, or fuels that are not compatible with the ATV. The exclusive remedy for breach of this warranty shall be, at Polaris' exclusive option, repair or replacement of any defective materials, or components or products. THE REMEDIES SET FORTH IN THIS WARRANTY ARE THE ONLY REMEDIES AVAILABLE TO ANY PERSON FOR BREACH OF THIS WARRANTY. POLARIS SHALL HAVE NO LIABILITY TO ANY PERSON FOR INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES OF ANY DESCRIPTION, WHETHER ARISING OUT OF EXPRESS OR IMPLIED

WARRANTY OR ANY OTHER CONTRACT, NEGLIGENCE, OR OTHER TORT OR OTHERWISE. Some states do not permit the exclusion or limitation of incidental or consequential damages or implied warranties, so the above limitations or exclusions may not apply to you if inconsistent with controlling state law.

## **WARRANTY**

ALL IMPLIED WARRANTIES (INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE) ARE LIMITED IN DURATION TO THE ABOVE SIX MONTH WARRANTY PERIOD. POLARIS FURTHER DISCLAIMS ALL EXPRESS WARRANTIES NOT STATED IN THIS WARRANTY. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you if inconsistent with controlling state law.

### **HOW TO OBTAIN WARRANTY SERVICE**

If your ATV requires warranty service, you must take it to a Polaris dealer authorized to repair Polaris ATVs. When requesting warranty service you must present your copy of the Warranty Registration form to the dealer. (THE COST OF TRANSPORTATION TO AND FROM THE DEALER IS YOUR RESPONSIBILITY). Polaris suggests that you use your original selling dealer; however, you may use any Polaris Servicing Dealer to perform warranty service.

## WARRANTY

Please work with your dealer to resolve any warranty issues. Should your dealer require any additional assistance they will contact the appropriate person at Polaris.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

If any of the above terms are void because of state or federal law, all other warranty terms will remain in effect.

### Engine Oil

1. Always use Polaris engine oil.
2. Never substitute or mix oil brands as serious engine damage and voiding of warranty can result.



## INDEX

Air Cleaner	132	Engine Electrical Switches	49
Battery Installation	110	Engine Start Button	51
Battery Maintenance	106	Engine Stop Switch	R4, 50
Battery Removal	109	Exhaust System Restrictor	135
Brake Adjustment	140	Front Brake	R7
Brake Freeplay Adjustment	142	Fuel Safety	65
Brake Lever	R7	Fuel System	63
Brake, Parking	58	Gas Cap	R6
Brakelight Lamp Replacement	159	General Safety And Description of Labels	5-19
Brakes, Front	57	Handlebar Adjustment	128
Brakes, Rear	57	Ignition Switch	R8
Break In Period	74-76	Indicator Lights	56
Camber And Caster	137	Kick Starter	R5, 69
Carburetor Adjustments	163	Know Your Machine	R2-R11
Carrying Loads	77-80	Load Capacity	77-80
Chain Adjustment	157	Lubricant	67
Cleaning Your ATV	160	Lubrication Recommendations	122-123
Control And Parts Functions	49-69	Main Switch	49
Crossing Streams	98	Battery	106-111
Cylinder Head Torque	147	Maintenance	115-163
Daily Pre-ride Inspection	20-21, 81-83	Maintenance Record	126
Drive Chain Adjustment	155-156		

# INDEX

Maintenance Schedule	115-118	Steering Inspection	137
Making Turns	86	Storage	146
Noise Control System	112-114	Tether Strap	R9
Oil System	63	Throttle	R4, 53
Oil System	66	Throttle Cable Adjust	134-135, 143
Operation Warnings	22-46	Throttle Lever	54
Parking On An Incline	102	Tire Inspection	154
Pre Operation Check	R12-R15	Toe Alignment	138-139
PVT System	62, 104	Tool Kit	115
Rear Brake	R7	Torque Specifications	130
Rear Spring Adjustment	131	Trail Obstacles	100
Rider's Section	R1	Transmission Lubrication	148
Riding	84-102	Transmission Oil Changing Procedure	149
Riding Gear	72-73	Transporting	162
Riding On Slippery Surfaces	88	Traveling Downhill	94
Safety Warning and Op. Decals	10	Traveling Uphill	90
Sidehilling	92	Troubleshooting	173-174
Spark Arrestor Restrictor	136	Turning Around On A Hill	96
Spark Plugs	144	Understanding Warnings	1-4
Specifications	164-170	Understanding Warnings	R16-R20
Starting A Cold Engine	70	Vehicle Identification Numbers	47-48
Starting The Engine	70-71		

## INDEX

Warranty ..... 175-180  
Wheel Installation ..... 151-153  
Wheel Nut Torque ..... 152

Wheel Removal ..... 151  
Wiring Diagram ..... 171-172

## WARNING



Always use an approved helmet and protective gear



Never use on public roads



Never carry passengers



Never use with drugs or alcohol

**NEVER operate:** without proper training or instruction; at speeds too fast for your skills or the conditions; on public roads - a collision can occur with another vehicle; with a passenger - passengers affect balance and steering and increase risk of losing control.

**ALWAYS:** use proper riding techniques to avoid vehicle overturns on hills and rough terrain and in turns; avoid paved surfaces - pavement may seriously affect handling and control.

**Improper ATV use can result in SEVERE INJURY or DEATH**

Part No. 9917080



**POLARIS®**  
**The Way Out.**